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We print in this number a very complete *aperçu* of the import and export business of this country in chemicals and other trades in connection. As a guide to the markets of the world this compilation ought to be of considerable service to many of our readers.

The Chemists' Trade Association is undertaking prosecutions for illegal sale of poisons because the Pharmaceutical Council cannot be induced to act vigorously, but the latter body only has the right to prosecute for the illegal assumption of the title of chemist and druggist.

Some of the principal railway boards are contemplating a uniform stamp-parcel rate, under which a parcel two or three pounds in weight may be carried to or from any town in the United Kingdom for a stamp costing 3d. or 4d.

All chemists will thank the Chemists' Trade Association and their solicitor for the spirited exposure of the false representations by which a police constable entrapped a chemist at Rugeley into a breach of the Arsenic Act. We are sorry, however, that the Rugeley magistratos should have so lightly esteemed the dignity of English justice as to charge for the insult offered to her by an official lie the price of one shilling sterling!

The Pharmaceutical Council has directed special attention to the suspicion that some chemists prepare tinctures for internal use with methylated spirit. As this practice is dangerous to the public, unfair to honest tradesmen, and subject to a penalty

of 100l., it is to be hoped it is now or soon will be out of existence. An attempt was made by Mr. Schacht to induce the council to obtain an interview with the Apothecaries' Company with a view to coming to an understanding on the counter prescribing question. We regret to add that the proposal did not find a seconder. It would be a generous act and good policy likewise to follow such a course, but the suggestion did not come with good grace from one who has most resolutely opposed every tendency on the part of the council to take a firm stand and defend the threatened rights of its members. To ask the Apothecaries for a parley unless we are perfectly prepared to fight would be merely a piteous appeal to their mercy—a position to which the Druggists are not yet reduced.

A preliminary meeting of gentlemen taking an interest in the chemists' ball is to be held at 17 Bloomsbury Square on November 5, at 9 P.M. Mr. Walter Hills, of 338 Oxford Street, is the honorary secretary.

We are able in this issue to give a *résumé* of the proceedings of the American Pharmaceutical Association at their recent meeting in the city of Toronto. Among the items many paragraphs of much general pharmaceutical interest will be found.

An attempt has been made to fine some chemists in Glasgow for selling citric acid and citrate of magnesia containing minute traces of lead. The defence was that all commercial citric acid was necessarily slightly contaminated with lead. When the magistrate came to comprehend the decimal fraction involved, he decided for the defendants.

In an innugural address to the Liverpool Chemists' Association on the 11th inst., the new president, Mr. T. F. Abraham, went over a wide range of subjects pertaining to pharmacy. His treatment of pharmaceutical politics was rather philosophical than sympathetic or practical.

Several new principles have been extracted from the Pharmacy Act lately, which, if they are to be relied upon, as by law established, tend to make that Act far more effective than it has hitherto seemed. Last month we noticed that an unregistered person who had sold laudanum under cover of the patent medicine stamp, had paid the penalty for infringing the Act without contesting the principle. Now we have to record that the Chemists' and Druggists' Trade Association has, after legal contests, established the following results:—First, that an unregistered person may not carry on a chemist's business under cover of the lent name of a registered person, unless the latter be the *bonâ fide* owner of the business. If this decision be correct, the evasion of the law, which, under the title of *prête nom*, is so extensively carried on in France, will be impossible in this country. The other decision is to the effect that poisons must be labelled with the name of the actual proprietor of the firm supplying them. May we ask how John Bell & Co., Savory & Moore, Corbyn & Co., and other firms, with not exactly accurate titles, label poisons?

The annual meeting of the Pharmaceutical Society of Ireland was held in Dublin on October 1, Sir D. J. Corrigan, president, in the chair. Some discussion took place in reference to the form of voting papers for the election of members of council: it was resolved that the matter should be discussed at the meeting in November. The following members of council retired by rotation:—Mr. Wm. Allen, Mr. J. Goodwin, Mr. Wm. Hayes, Mr. Harrington, Mr. Soldham, and Professor Tichborne. Mr. Downes and Dr. Ryan were appointed scrutineers. Dr. Leet resigned his seat on the council. The result of the poll was:—Tichborne, 69; Allen, 66; Hayes, 64; Oldham, 64; Boileau, 33; Whitla, 28. Messrs. Boileau (Dublin) and Whitla (Monaghan) are the new members in place of Dr. Leet and Mr. Harrington. Votes of thanks were passed to the president and other officers of the society, who were also re-elected.

OPENING ADDRESSES.

MORNING, NOON, AND NIGHT.

WHEN the leaves begin to fall, and we are warned of the approach of winter, it is the custom at the great educational centres to say a few words of welcome to students who are entering upon their career. Formerly it was the habit of the speaker chosen for the task to enlarge on the moral bearings of the question^a to inculcate diligence and perseverance, and to show how continuous effort must eventually be successful. Others pointed out, often in an admirable manner, those methods of systematic study which experience had proved to be the best. Some, lastly (this is the growing fashion), wishing to avoid a too stereotyped exhortation, credit the student not only with good intentions, but with practical intelligence, and strike out a new line altogether, devoting their inaugural remarks either to a succinct recapitulation of the advance made in their own department of science during the past year, or to the unfolding of some particular research in which they have themselves been engaged.

Whatever be the subject of the discourse, and in whatever way it may be treated, there is no pleasanter sight than the opening of a great school. Pleasant it is to witness the unchecked, but always generous, excitement of the young votaries of knowledge, their tumultuous recognition of the honours gained by their companions, and their respectful attention to the appointed homily, varied only by a sigh of relief to find that occasionally it was not too goody good. Pleasant it is to see the father pointing out "my son" as the latter nears the chair to receive his prize; pleasant to watch the seniors renewing in the scene around them the recollection of their own youthful triumphs. And, therefore, we are sorry when we hear that in some of the larger medical schools the time-honoured custom of address and prize-giving has been discontinued.

* *

MORNING.

On Monday, September 17, at the hour of noon precisely, the opening session of the South London School of Pharmacy commenced. The meeting, as usual, was held in the new laboratory—the students being placed in the spaces appropriated to their use, and the rostrum, from which the lectures are delivered, being filled by Mr. William Baxter, the secretary of the institution.

The chair was taken by the Rev. S. B. Harris, the vicar of Kennington, supported by the visitors and friends.

Mr. Baxter expressed the hope that every student's name would be found in the report at the close of the session as having passed their examination. Of late the school had received a goodly contingent from Adelaide, Cape Town, and Calcutta, and he had the gratification to welcome men who had come from so great a distance to commence their course of study.

During the past sessional year 158 students were enrolled on the books for periods varying from three to six months. Of these 43 did not present themselves at any examination, either from ill-health or because they came to study analytical chemistry only. Of the remaining 115, 75 passed the Minor, and 18 failed. Fourteen passed the Major, and eight failed. One student obtained the gold medal from Apothecaries' Hall. In conclusion, he pointed out one or two things which were most essential to success: the first was punctuality, and the second, which was of paramount importance, was obedience to their instructors. He would warn them not to follow in the wake of the self-conceited student, for the indulgence of such a spirit would, he assured them, be fatal to their advancement.

Mr. Joseph Ince, one of the examiners, then spoke as follows: Once more we are met together at the opening of a new session. It has been thought right by the authorities of this place that instead of a formal and studied address there should be offered a few simple words by one who has been and still continues to be a student. Will you accept such an address? And let me begin by saying that in the name of the educational staff of South Kennington—in that of the rev. chairman, Mr. Harris, and in my own—we bid you hearty welcome.

There is always a certain monotony in this event, a monotony which I hope will never be absent. There is what may now fairly be called an old school reassembled in this fine and efficient laboratory—again the meeting is graced by the presence of our excellent and reverend chairman, and once more there is a crowd of students eager to enter upon their career. Let me tell

them of another sameness, and that is the uniformity of success, which leads me to the one piece of moralising with which I shall trouble you—for I prefer that both you and I should live our morals, and not talk them—I ask of you but this, that you should be found faithful to the traditions of the school. Those traditions have had an inevitable influence—they have provoked what has been termed the truest flattery, imitation. No anxiety need be created on this account, nor any shadow of discouragement—for it is a thing unavoidable and to be expected. Mr. Baxter has more than once compared the progress of this school to a ship. I may remind him that it was not possible, when the vessel had sailed so often and so triumphantly into port, but that other boats should be found sailing in her wake.

A few years ago there was a rumour that a light was shining in a dwelling somewhere over the water, and that by its aid one or two students were reading for their examination. These formed the nucleus of a little school, which soon began to increase, and when the grain of mustard seed began to grow, and the numbers to be enlarged, home rule, for it began at home, had to be abandoned, new premises to be sought, and the organisation to be developed—rather the school at Kennington began to have what at first it did not possess, a definite organisation. So it went on steadily till there came the *coup d'état* of pharmacy—the date of the passing of the Act in 1868. Then there was dire confusion and sudden preparation, and in one great cloud students swooped down to Kennington.

How under such difficult circumstances the men contrived to learn, or how the teachers contrived to teach, I cannot tell. But so it was, and great success ensued. That gave a new starting point to the school, and from that moment it has gone on continuously progressing: a new and better and more careful system has been inaugurated, the result of which is that we are met together this morning, surrounded by all the appliances of study, to commemorate the opening of a new session. I congratulate the students upon their choice. The advantages here offered are—first, the admirable mechanical arrangements of the laboratory in which we are assembled. There is a fixed place for every man, and every man is required to be in his place; there is a rigid system of order, which is never permitted to be infringed; the studies, especially that of chemistry, are under the guidance of Dr. Muter, who has a rare gift of explanation, and of condensation. There is another circumstance in his favour, that he is not like some dignity enveloped in the clouds, or seen only in the lecture-room, but that he makes himself now, what he has so often stated he wishes to become hereafter, the friend and companion of the student.

There are other branches of study, such as materia medica and pharmacy, and there are details of explanation which cannot be included in a formal lecture: in this class of work the doctor has the advantage of being ably and assiduously seconded by Mr. Dodd. It would be an injustice to omit the name of that gentleman from any of these public gatherings.

Now, gentlemen, I would ask you to make the most of these opportunities—to get as much out of the school and the doctor as you can. You are grown-up men—you are of age, and have each a personal independence: henceforth you are your own masters, and whatever may be the regulations of this place, whether written in iron or framed with the utmost leniency, it depends mainly on yourselves what may be the good that may result. Of your own accord you have entered yourselves at a school: it is the South London School of Pharmacy to which you have come. I ask you manfully and cheerfully to accept the conditions of the situation, and not to consider the provisions made as so many restrictions on your freedom. Scarcely anything is more interesting or inspiring than the opening of a session, especially the sight of a band of young men filled with buoyant and radiant hopes for the future and wishes for success. But there is an event still more interesting and inspiring, and that is not the opening of a session, but its close, when we meet once more, in three months' time, to celebrate those hopes realised and those wishes crowned. Remember that the warmest sympathies of the whole educational staff of this place are with you.

Soon, very soon, they will publicly receive their reward. We are told that more than a thousand students have left this establishment. Some are to be found working hard in the metropolis; others have planted pharmacies in different parts of the country; others, with bolder flight, have settled in the colonies. This must begin to have an influence, and from these widely-scattered centres there will come with one consent voice the

utterance:—"We, the former successful students at the South London School of Pharmacy—we who have reaped the benefit of the training and system practised there, beg to return and express our warmest sympathies with the teachers of the school."

* *

NOON.

On Monday, October 1, at 4 o'clock, an eager and expectant audience crowded the theatre at King's College, London, to listen to the inaugural address of Professor Lister, late of Edinburgh.

Seldom has greater excitement attended a first appearance; but, firstly, there was an element of the sensational in the advent of a professor who had been elected in some measure to take the place of the late Sir Wm. Fergusson, and to continue unimpaired the reputation of the College staff. Secondly, it was not forgotten that the position in which the lecturer was about to stand was one which at the outset he had publicly refused. Thirdly, there was a certain element of peril; for the newcomer had to justify or forfeit that high estimation which a London council had set upon his abilities.

No wonder, then, that the long, dreary passages of the building in the Strand were for once besieged with students from all quarters, and with a crowd of visitors, amongst whom there was an intermingling of a discontented few, ready to upset the harmony of the proceedings. We have to record the unqualified success of the Scotch surgeon, who, having immediately in front of him Sir Thomas Watson, and behind him some of our best physiologists, entered upon the consideration of an original research of great practical importance.

We have room but for the barest outline of the discourse, but we earnestly direct the attention of the reader to a perusal of its full details. His inquiry had been directed towards obtaining some more precise knowledge of the nature of the changes in organic substances which went by the general term fermentation, and from which zymotic diseases are derived.

The most pernicious in its effects, and by far the most frequent in operation, was putrefactive fermentation, and it was, therefore, of deep importance to know what we mean by fermentation.

He had just witnessed in the north of Italy grapes made into wine: the conversion of the juice was accompanied by a development of the microscopic organisms. The alcoholic fermentation of grape sugar was due, by universal consent, to the growth of the yeast plant. Here was a living, active agent, called the ferment, which was capable of self-multiplication. Were all true fermentations caused by the development of living organisms?

Blood exhibited the phenomenon of putrefactive fermentation. Exposed in a vessel it would speedily become foul, acrid, and poisonous. Blood coagulating contracts, and the fibrine may be pressed out. Yet he had a specimen of blood to show in which no such thing had taken place. It was contained in a flask, without any close fitting of the cap or shade, and it had not putrefied. Blood had no inherent tendency to putrefaction, but were he to touch it with a speck of putrefied blood, putrefaction would soon spread through the mass. The microscope revealed in that putrefying blood, as in the grape juice, organisms of different sizes, very much more minute than the yeast plant, and commonly endowed with a remarkable power of locomotion. As the blood putrefied, so the organisms developed. These were called bacteria, and it was important to determine whether they were the cause of fermentation or merely accidental concomitants. There was ground for supposing them to be the cause, from the known wonderful alterations effected in organic substances by agents endowed even with no life at all. A striking illustration was afforded by the action of emulsin (a dead thing) on amygdalin, and the consequent development of prussic acid in bitter almonds. That, however, was not true fermentation, for there was no power of self-multiplication of the ferment. The special fermentation, he had considered was not putrefactive, but the lactic fermentation, by means of which milk sours and curdles, by which sugar of milk is converted, not into alcohol, but lactic acid.

The late Professor Miller considered that this was due to the caseine in the milk, though at the same time he had stated that Pasteur had expressed his belief that there existed a living ferment which produced such fermentations.

He then showed that the milk contained bacteria of different kinds—some with the power of locomotion, others not; and that in the early stages of souring they would always be found in milk.

As regards boiled milk, evidence was sufficient that something had to be introduced into it from without to cause lactic fermentation, to which it was not spontaneously prone.

Unboiled milk also did not contain in itself any constituent having the power to give rise to organisms, or to lactic, or to any other kind of fermentation.

The microscope revealed a distinct organism present in milk that had soured, which he called the bacterium lactis, and he considered that it was to its presence that lactic fermentation was due.

We have had to omit a notice of the many beautiful experiments with which the discourse was illustrated throughout, as well as comment on the physiological bearings of the subject, which "interest alike the physician, the surgeon, and the philosopher." May we add, the pharmacist, and we would fain hope every reader of this journal.

* *

NIGHT.

Our provincial friends must not be angry when we say that there is some amount of intellectual activity in the metropolis. On Wednesday night, October 3, the rooms at Bloomsbury Square were thrown open to inaugurate the opening of the winter session. There was a fair attendance, though the accommodation still remains more than ample. Ladies were present to brighten the scene, and we noticed with gratification that Mr. Bremridge, whose occasional absence we have regretted, took part in the proceedings, and seemed in excellent health.

The opening of the pharmaceutical session is a long ceremonial, which circumstances have rendered inevitable. The professors give in their reports, prizes are awarded to the successful candidates, and the whole concludes by an address to the new students delivered by some pharmacist of eminence. Mr. John Williams, who occupied the chair, was most felicitous in his brief congratulations to the prizemen. He said good things, and said them well, and his genial manner enhanced the kindness of his words. Besides which, there was a sensible arrangement, that a student who had been fortunate enough to gain more than one honour, received his whole share of laurels at one time—much to his own increased distinction—much to the relief of the president, who was able to reward the recipient with appropriate words of welcome.

Two gentlemen have distinguished themselves in a highly satisfactory manner. Mr. George William Bullen gains the silver medal in Chemistry and Pharmacy; certificates of honour for Botany, Materia Medica, and Practical Chemistry, the Pereira medal, and the gift of books presented by Messrs. Hills and Hanbury.

Mr. Robert Henry Parker was no less successful, for to his lot fell the bronze medal of Chemistry and Pharmacy, the bronze medal of Botany and Materia Medica, the silver medal (ten months' course) for the same, and the silver medal for Practical Chemistry. The president advised him to take to the study of numismatics, starting with the collection he had already formed.

Some of the prizemen bore names with which we are happily familiar. Mr. Robert Brown Betty, Mr. Rawson Parke Francis, and Mr. Henry George Greenish were included in the list.

Meanwhile, where were the professors? We are not entirely sure; but they had already said their say, and were, we believe, reposing in that portion of the auditorium "invisible to mortal eyes, or dimly seen." Thither, too, had repaired, with the additional protection of being behind a pillar, our eloquent representative from Edinburgh. When the professors successively emerged they were most warmly welcomed by the audience. First came Professor Redwood, who seemed to apologise for having so often had to address the meeting in the same capacity. We hope he may stand in need of a similar apology for many years to come. It must be to him a personal matter of satisfaction that the educational experiment which was ventured on not forty years ago is at this moment in so flourishing a condition. Next came Professor Bentley, fresh from his labours of arranging for Professor Lister's inaugural lecture at King's College. He told us how for about eight-and-twenty years he had taught botany, and how his knowledge had been obtained between the hours of four and eight in the morning. This is the annual sentence in his speech which sends a chill through a portion of his audience. Some of us detest these unearthly hours, and think that it is a wise provision that things at such a matutinal period are most uncomfortable.

We have lately read in a scientific paper that it is a mistake to imagine that the lark rises early from its grassy couch. According to accurate observation it does nothing of the sort, and as it sings so well, we are glad to know that it is a sensible as well as an accomplished bird, and we mean to continue to rise with the lark in future.

The marks obtained by the first six candidates for botany were higher than any previous average; there were three competitors for the herbarium prize, the award being given to Mr. J. T. Creswick Williams, whose collection contained 715 specimens. He was greeted with considerable and deserved applause by those seated in the body of the theatre.

Professor Atfield reported on the condition of the school.

The Jacob Bell Scholars are Mr. Henry Allen and Mr. John Graham Sangster.

Mr. Charles Umney, who gave the particulars respecting the scholarship examination, expressed his surprise that there had only been fourteen competitors. He hoped the day would come when forty, nay, a hundred, would be found eager to compete. It was a prize of treble nature. First, there was the honour of its attainment; secondly, the sound education offered; and, thirdly, the gift of money.

At twenty minutes to 10 o'clock, a rather exhausting hour, Mr. William Southall, of Birmingham, rose to deliver the address to the students of the School of Pharmacy. Two conflicting emotions had occupied his thoughts when he had been honoured with an invitation to deliver the address—the first that of gratification at having been selected; the second, a feeling of being inadequate to the task. He had decided on making the attempt, and thought it a considerable thing on the part of the council to call upon the provincial druggist to discharge such an office. He concluded that the students were gathered in that place, not merely to gain sufficient technical knowledge to pass an examination, but to gain a true insight into some of the laws of nature, and a practical acquaintance with certain of its productions. The time was necessarily short, but it might be utilised to the utmost. None had come with their minds a sheet of white paper, on which the lines of instruction might be traced, but with a measure of preparation, and with their hearts in the work. They were the inheritors of the intellectual dowry of the past, and would reap the advantage of their position. He proposed to offer a few desultory remarks about the nature of things specially in connection with chemistry and botany. Chemistry was a creation of modern date: three years back in Birmingham they had celebrated the centenary of the discoveries of their townsman Priestley. His best known discovery was that of oxygen, which he called phlogisticated air. He shared with Cavendish and Scheele the error that combustion was a decomposition, and that the functions of the air consisted in removing an imponderable body—phlogiston—from combustible bodies. Lavoisier, on the contrary, proved that in every chemical process increase of weight means increase of material, and loss of weight the converse. He established clearer views respecting the phenomena of combustion, following Boyle and the old Arabian Geber. Dr. Black, of Edinburgh, made important researches into the nature of the effervescing carths and alkalies, and was the first to show the value of quantitative relations in the interpretation of chemical reactions, as well as to inaugurate modern ideas of combustion and decomposition. The process of chemical thought was further traced in the physical researches of Joule and others relating to the various forms of energy. Matter is indestructible, however it may change its form: energy is indestructible, and is measured by work.

The ancient Greek philosophers were admirable students of nature. In Democritus we had the first glimpse of the atomic theory, and it might be mentioned as a pleasant digression that Aristotle was a druggist at Athens: the fact was not undoubted, but it was a cheerful notion to think of the father of inductive reasoning, who might have been one of our vocation, listening to Plato's lectures. Allusion was made to Theophrastus and the Latin poet Lucretius. He defended the great Roman author from foolish aspersions, quoting extracts from "De Rerum Natura" to prove that he discoursed wisely about atoms and the indestructibility of matter, a subject which remained obscured until Dalton enunciated the theory which made him famous. The poet, however, had anticipated the philosopher, and some of his descriptions read singularly like the present molecular or kinetic theory of gases.

Shifting ground a little, Mr. Southall went on to the consideration of vital energy or life. Its lowest forms are structureless,

modern and protoplasmic, and observers dwell on lumps of sarcode, protoplasmic matter, plastic or formative material. The germ of life yet remains undiscovered.

In this vast and still debatable ground infinite variety of forms are found—flagellata, ciliated infusoria-diatoms. The question to be resolved was whether vitality is a result of organisation, or whether organisation follows because life has begun. Botany next engaged the lecturer's attention. Formerly studied only under the Linnean system, it was now a section of biology: a plant is a life, a member of the great family of living beings. Their manners and customs are as diverse as those of the race of man.

Dr. Erasmus Darwin long ago sang of the loves of plants: his descendant, the Darwin of to-day, had fashioned a far more romantic story of those loves in the sober words of truth. We learn from him how the bees and insects carry messages of love, and are rewarded with honey for their pains. Comparisons were sometimes made between men and trees, and the resemblances were not few. Strange habits were found in plants—there were mimetic insects that imitate, for protection's sake, leaves of the plants on which they feed. Plants breathe after their fashion, bleed when cut, and are troubled with infesting parasites. They have deformities and clubbed limbs; distinctions of race and pedigree. Like men, they sometimes break down in the struggle for existence. Some wander by sea and land, while others travel underground. They have their own modes of motion: the sensitive plant (*Mimosa pudica*) shrinks at a touch; the leaves of the *Dionaea* clasp their prey; flowers close and open in the sun and shade; capsules scatter their seeds with force, and there is the grand slow movement of soft-bodied fungi, which lifts heavy loads, while rocks are riven with the roots of trees. Botany is the study of these habits, and also the systematic arrangement of their genera and species. To gain this knowledge books were wanted, direct instruction, specimens for private study, and, by all means, the microscope. Such a pursuit was essential to the pharmacist, nor were the teachings of vegetable chemistry to be neglected. Finally, he trusted that if the Council willed, and the Fates decreed, he might meet some of his listeners again in another room in the same building, and that the meeting and parting might be equally pleasant with the present.

Dr. Greenhow, in a few well-chosen and courteous words, congratulated the lecturer on his address. He was glad to find that he had wandered out of the more conventional practice of giving good advice. It was difficult on such occasions to attempt something new, and not to traverse beaten ground, and the effort had been attended with the happiest results.

POSTSCRIPT.—MIDNIGHT.

All is well that ends well. Some portions of the remarks of Mr. Southall were, perhaps, beyond the scope of a mixed audience. Yet he was heard throughout with respectful attention: towards the close his botanical allusions were well received, and he was rewarded at the conclusion by the heartiest applause. The wisdom of the Council in selecting provincial pharmacists for these special services was amply demonstrated on Wednesday night; and we would add our meed of praise to the general congratulation. We have no fear for the position of English pharmacy, or for its advancement, when we are thus pleasantly made aware that both high scientific culture and scholarship have found a habitat in one of the busiest of commercial centres.

THE PHARMACEUTICAL COUNCIL.

At the meeting on October 3 all the members were present except Mr. Cracknell.

Among the pharmaceutical chemists proposed for membership the name of Miss Isabella S. Clarke appeared again, and (in the temporary absence of Mr. Hampson) Mr. Gostling proposed, and Mr. Churchill seconded, her election. It was, however, pointed out by Mr. Robbins, who was supported by Mr. Sandford and others, that a general meeting of the society had decided to refuse the admission of women to membership, and he thought this vote bound the Council. The President and some other members thought otherwise; but on a division Miss Clarke's election was refused by 8 votes to 4.

The Benevolent Fund Committee made several recommendations of grants, among them being a sum of 50 guineas, to be

employed, if necessary, by Mr. Owen to obtain the election of an orphan boy, $7\frac{1}{2}$ years of age, to St. Anne's school, the child being one of seven of a registered chemist. Some objection was made to this grant, but it was ultimately agreed to, it being understood that if the desired object could not be attained Mr. Owen would not spend the money.

The Law and Parliamentary Committee recommended that proceedings should be taken in a case of alleged infringement of the Pharmacy Act, concerning which the facts had been elicited in a prosecution undertaken by the Chemists and Druggists Trade Association. They reported that a homœopathic chemist who had used the title "pharmaceutist," had paid the penalty he had thereby incurred, and had promised not to offend again. The committee also raised a question about prosecuting chemists who used methylated spirit in the preparation of certain tinctures, such as that of opium. In explanation of this point, Mr. Greenish mentioned that several instances of this kind had come before the committee. There was some doubt whether a conviction could be obtained under the Pharmacy Act, but it was certain that offenders were liable to the penalty of 100*l.* under the excise laws, and the question was whether the council should officially bring the matter before the Inland Revenue authorities. The honest tradesman was at a manifest disadvantage in competition with his unscrupulous neighbour if the latter used methylated spirit in the manufacture of tinctures for internal use. Mr. Brown and Mr. Rimmington seemed in favour of communicating with Somerset House, but Mr. Owen, the President, and Mr. Atkins, somewhat deprecated the assumption of such duties on the part of the council.

The adjourned debate on Mr. Robbins' proposition in respect to the extension of the benefits of the Benevolent Fund was reopened by Mr. Betty. Mr. Robbins had advocated that the surplus income of the fund should be devoted to the purchase of admissions for orphan children of deceased members into institutions, or to provide for such in some other way, such children to be nominated by the council and elected in the same way and at the same time as the annuitants now are chosen. All the speakers on this subject objected to any such resolution, the general ground of opposition being that the power of spending money for orphans was already existent, and indeed that it had been exercised, and further that it was not desirable to extend the process of election. Mr. Robbins withdrew his motion, remarking that his object in bringing it forward had to a great extent been attained, as already some steps had been taken to spend money in this direction.

Mr. Schacht then moved: "That members of the council resident in the provinces be reimbursed their travelling expenses in attending meetings of the committees other than those on the day preceding the council meetings." Mr. Brown seconded the motion. He thought several of the committees now held on the day before the council meetings would be more advantageously held in the middle of the month. He instanced the Law Committee, the General Purposes Committee, and the Benevolent Fund Committee. Mr. Mackay thought a positive necessity for meeting at other times should be shown, and Mr. Gostling thought it very undesirable to multiply committee meetings for the benefit of country members. Mr. Betty opposed the motion at some length. He said the Library, Museum, and House Committee was at present the one committee which met in the middle of the month, and he questioned the desirability of spending an additional 200*l.* a year on a committee, which was chiefly occupied, not with questions of policy or principle, but with the purchase of mops, the arrangement of ventilators, and the examination of the paint in the building, with the reception of some formal reports from the Professors, and with the ordering of a few books for the library. He appealed to the members to maintain the old traditions of the Society, according to which the position of member of the Council was an honorary one, to be held by the representative men of the trade, to whom a few pounds a year more or less was not of much importance. They had no proof that the business of the committees could not be attended to as the committees were now held. Several other members spoke, and the discussion, wandering into a consideration of the most convenient time for holding committees, Mr. Schacht expressed a hope that his simple proposition would not be mixed up with other matters. Mr. Sandford, however, thought it necessary to consider the two subjects together, and he proposed that the matter should be referred to a committee, a motion which was seconded by Mr. Atkins, but, as this proposal was not thought

to be of the nature of an amendment, it was ultimately withdrawn. Mr. Betty, Mr. Hills, and the President then intimated that they should decline to vote on the motion, and there seemed a prospect of an antagonism being caused between the London and the country members of the Council. This being so, Mr. Schacht withdrew his motion.

Mr. Schacht next proposed that the Pharmaceutical Society should make an effort to come to a distinct understanding with the Society of Apothecaries as to the class of cases of alleged infringement of the Apothecaries' Act which should be open to prosecution; and that a committee be appointed to confer with the Society of Apothecaries to give effect to this resolution. Mr. Schacht explained that, though he had opposed the policy of the society in defending cases under the Act, he was as desirous as others could be to prevent the prosecutions, and he believed that an interview with the Apothecaries' Society might tend to this object. He thought the latter society would hardly be so discourteous as to refuse a conference. Mr. Schacht then went on to state roughly the limits of chemists' rights, from which it appeared that his opinion scarcely varies from that of other pharmacists. He seems to consider that pharmacists, as everyone else, have a perfect right to express a medical opinion if asked for it by persons who know them not to be medical men. As this is precisely the right disputed by the apothecaries, the other members of the council seemed to think it useless to discuss the subject with them, and Mr. Schacht's proposal failed to find a seconder.

THE LIVERPOOL CHEMISTS' ASSOCIATION.

PRESIDENT'S ADDRESS.

THE twenty-ninth session of the Liverpool Chemists' Association was opened on the 11th inst., when the new president, Mr. T. Fell Abraham, A.A., read his inaugural address.

After a few introductory remarks, Mr. Abraham proceeded to discuss subjects of interest to pharmacists as follows:—

First as to the much discussed and probably rather hackneyed subject of so-called "counter prescribing."

At the outset it is necessary to remember that laws are made, or at all events should be made, not for the protection of particular classes but for the protection of the public. Thus the various Medical Acts are not intended for the benefit of medical men primarily, though really they may be so; they are intended to protect the public from the injury arising from the false pretences of unqualified persons. So with the Acts relating to pharmacy. These Acts have not been made to apply to the sale of simple drugs or other remedies. It is only when one comes to deal with dangerous substances and prescriptions that the law steps in and requires a special qualification.

Now let us try to apply these two general rules to our special case.

In the first place, what is proscribing? Some would say that prescribing for a patient is writing what we call a prescription for him. In one and perhaps its strictest sense this definition is correct. Practically, however it is only very partially correct. A physician may prescribe change of diet, of occupation, of scene, or of clothing for his patient without writing a word. The instructions the physician gives his patient form his prescription; the writing of a portion is merely a means.

The person who administers a stimulant to another whose symptoms he thinks demand such treatment we consider does a kind action, and we would laugh at the idea of such an action being an encroachment on the duties of the physician. Similarly the chemist who gives a dose of chalk mixture to a person who complains of diarrhoea, an antacid draught to one who feels sickly, or applies plaster to the wound of a person knocked down by a passing vehicle, does not step beyond the reasonable bounds of his calling.

But when a chemist undertakes to give advice in serious or complicated cases, he does, unless the circumstances are very exceptional, what is unjustifiable, because he does, or rather professes to do, that which in 99 cases out of 100 his education and training have not qualified him to perform, and for which another portion of the community, specially educated for the purpose, is so qualified.

On the other hand, the public often overrate our ability to advise them, and it is very difficult to refuse compliance with requests which to them seem no more than reasonable. Let

those of us then who are pharmacists, whilst firmly declining to undertake responsibilities which we are not qualified to fulfil, be equally determined to defend ourselves from enactments, if they should be proposed, which would render it almost impossible for us to carry on our business.

The fact that a large proportion of our members, myself amongst the number, are pharmacists, must be my excuse for troubling you with a few words on two matters which are probably of but little interest to those outside our ranks.

First, as to the Patent Medicine Duty.

How or when it came originally to be imposed I have been unable to ascertain, and it is probably of but little import to inquire.

The use of the word "patent" is in the first place absurd. A moment's consideration will show this. The word means—open, subject to inspection, free from concealment. Now it is to just such preparations as fulfil these conditions that the so-called "Patent Medicine" duty does not apply. The element of concealment of composition is invariably present in the case of those medicines which the public and the Inland Revenue Department invariably call "patent." Can anything be more paradoxical?

But a much more serious matter is that the public, utterly ignorant as nine-tenths of them are as to the law on such matters, have got a sort of hazy notion into their heads that because a thing bears a Government stamp it has therefore received some sort of official sanction, and may safely be administered. They do not know that anything, be it as mild as ditch water or as deadly as aconite, is equally eligible for the dignity conferred by a Government stamp.

In the third place the duty is inequitable and almost prohibitory in the case of imported articles. For example: a preparation is intended to sell in France at 4½ francs. Add the various charges, and we might sell it for 4s. 6d. If, however, there be any paper or label about it that brings it within the clutches of the Medicine Duty, the price is forthwith pushed up to 5s. 6d. by the 1s. stamp, an addition of 22 per cent. to its cost. Of course in many cases such an addition is prohibitory.

The objections which I have urged are those which most naturally present themselves to the pharmacist. The student of political economy would of course condemn the tax for reasons of a totally different nature, to which I need not refer. I would, therefore, most respectfully urge on your consideration whether the time has not come when a movement should be made in the direction of obtaining the remodelling or, better still, the abolition of the tax to which I have referred.

One more matter interesting to us exclusively as retailers of drugs. A chemist has recently been mulcted in a nominal amount for selling as castor oil pills pills which did not depend for their activity on castor oil. In his defence it may be said that he was asked for an impossibility, that he gave what many chemists would have given under similar circumstances, and that his customer was not in any way defrauded or injured at his hands.

On the other hand it may be urged that his customer did not, and possibly could not be expected to, know that pills which depend for their activity on castor oil are not available, that it was the chemist's duty to explain that to him, and not to let him go away with an idea that he was taking medicine the action of which would be due to castor oil or to that principally, when its active ingredients were various purgatives, doubtless very good in their way, but totally different in their nature and properties from the article named.

The sooner such shams as citrate of magnesia without magnesia, castor oil pills without castor oil, elixir of horehound which contains no horehound, extracts of linseed in which linseed is the least important ingredient, and many others which might be named, are become things of the past, the better will it be both for the public and for the trade or profession to which we belong. Let us encourage truth and despise falsehood, whether it be in name or any other form.

The president then passed on to consider some of the more recent pharmaceutical novelties. Hydrabromic acid, in combination with quinine as a corrective of the occasional disagreeable effects of quinine, was spoken of favourably. The question of drops and teaspoon was next alluded to, and Mr. Abraham thought that chemists could only gradually help to educate the public to a more accurate appreciation of dose measures. Meanwhile, he recommended the use of Proctor's very portable and most inexpensive medicine measure.

Indian hemp, the employment of glycerine in pharmacy, the desirability of introducing more freely the secondary cinchona alkaloids, and the adoption of precautionary measures in regard to the sale of chloral hydrate, were next touched upon. In reference to this Mr. Abraham said:—

Its position as a valuable sedative is so fully established that any regulations that would interfere with its use would not be tolerated either by the profession or the public. It has been suggested that it should only be supplied on the order of a medical man, but such a regulation would not have prevented the accidents that have occurred, because it is unreasonable to expect that the patient must get an order for each individual dose of the remedy: and the accidents that have arisen have occurred to persons for whom the chloral had been ordered by their medical adviser, but who, not finding a first dose produce the desired effect, have had recourse to a second or a third. So long as a poison such as chloral stands at the head, or nearly at the head, of our list of available sedatives, so long must mishaps of a more or less serious nature occur from its use, or rather abuse. Regulations as to registration are all very well in their way, but it is my conviction that no good would arise from their application to a substance of such extensive use and so wide a range of dose as chloral hydrate. On the contrary, such regulation would deter some persons from using it, who might fairly and with benefit do so, and would tend to make the public look with less dread, if I may use the term, on those dangerous substances now included in Schedule A. of the Poison Act. The cry for stringent regulations, which simply means in many cases prohibition, seems to my mind nearly akin.

After referring to Mr. Greenieh's observations on oxalate of cerium, catu bark, and salicylic acid, Mr. Abraham made an attack on lactopeptin, which had recently been examined, he said, in America, by E. Scheffer, who had not found the statements on the circulars borne out by facts. It professes to consist of a mixture of pepsine, pancreatine, diastase, hydrochloric and lactic acids, with sugar of milk as a diluent. The conclusions arrived at by the writer of the paper are that lactopeptin contains pepsine, but that its activity is very inferior to that stated; that the pancreatine and pepsine, being incompatibles, the former is destroyed; and that diastase and hydrochloric acid, being also incompatibles, the diastase, if originally present, is destroyed. These results are, as far as he had had opportunities of comparison, confirmed by his own experiments. He found that his sample did not dissolve the quantity of albumen stated, nor one-fourth of it; did not convert the starch into glucose, and that 15 grains did not emulsify four ounces of cod liver oil.

The President referred to a few other subjects, and concluded by expressing the hope that the session now commencing might not be inferior in interest to any of its predecessors.

American Pharmaceutical Association.

THE twenty-fifth annual meeting of the American Pharmaceutical Association was held in the city of Toronto, Ontario, September 4, 5, 6, and 7.

The first session was opened by the president, Mr. Charles Bullock, of Philadelphia, who read his annual report. After alluding briefly to the history of the association, he gracefully reminded the audience that although the association was composed mainly of pharmacutists of the United States, yet they were now "at home" in Her Most Gracious Majesty's dominions, and that the occasion should be one of interest to both visitors and visited. The rest of the address was an historical sketch of pharmacy, which was of exceeding interest and elicited warm applause.

The Local Committee, from the meeting of 1876 in Philadelphia, presented a report stating that after the expenses incurred by their committee last year were all paid, there still remained in their hands an unexpended balance of \$525; and after consultation with the donors they had decided to present this amount to the American Pharmaceutical Association, with the following proviso:—That a similar sum or larger should be raised by the association, that it be securely invested, that the revenue arising from this fund be used for defraying the expenses of members in making original investigations for the association, and that it be called the Centennial Fund.

Mr. George W. Kennedy read the report of the Executive Committee.

It appeared that the present membership of the association is 1,164, and the revenue of the association is only adequate to meet its annual expenses, leaving no accumulation of funds.

On the second day the new officers were elected, Mr. William Saunders, of London, Ontario, being chosen president.

On being introduced to the chair, Mr. Saunders made a few remarks, alluding to the fact that though the association was now assembled in a place which was under monarchical government, he trusted that all would realise that they were yet able to enjoy entire freedom.

The Treasurer, Dr. C. A. Tufts, then read the report of the finances of the association for the past year, which may be briefly summarised as follows:—

	\$	c.
Balance on hand at last report	941	33
Receipts for the year	5,573	04
	6,514	37
Expenses and disbursements for the year ..	5,559	98
Balance in treasury	954	39

The sources of income are dues from members, initiation fees of new members, receipts from certificates of membership, and sales of volumes of proceedings.

The expenses are for outlays incident to the annual meeting, salaries of treasurer, secretary, reporter of progress of pharmacy; for stenographic report of proceedings; publication of proceedings; expenses actually incurred by committees; insurance on property of the association; postage and express charges; and a few minor items.

The association next discussed the place and time for next year's meeting. After a speech from Mr. Ingalls, of Macon, Georgia, urging that it was now time to go further south, where the association would gather a large accession to its numbers, and also confer a great benefit to pharmacy in that section, it was finally decided by a vote of the association to hold the next meeting in Atlanta, Ga., on the first Tuesday of September, 1878, at 3 o'clock P.M.

Professor C. Lewis Diehl read the introduction to his report on the "Progress of Pharmacy," reviewing at some length the new remedies which have come into favour during the past two years, and giving a brief notice of the changes in all departments of pharmaceutical art and appliances.

The report of the Committee on Legislation was read by Professor Maisch.

The Committee on Adulterations and Sophistications furnished a report, embracing many facts of interest, as to the deteriorated quality of many commodities of commerce and the arts.

The Committee on the Exhibition of Drugs, Chemicals and Pharmaceutical Articles in the Centennial Exhibition were appointed at the last annual meeting, and presented their report in time for publication with the proceedings. Having omitted quite a portion of interesting articles and information, the committee now presented a supplementary report embracing mainly articles of *materia medica* from foreign countries.

President Saunders read the report of the Committee on the Drug Market, of which, during the preceding year, he was chairman. The report was of interest, especially as showing some contrasts between English and American goods to the Canadian market, and also giving much information as to the Canadian products used in pharmacy and the arts.

The Business Committee then called up the unfinished business of last year arising out of the discussions and resolutions relative to the propositions of the revision of the U.S. Pharmacopœia by the joint action of the American Medical Association and the American Pharmaceutical Association. In response to this, Dr. E. R. Squibb stated that, in the present condition of the matter, it needed no action. The American Medical Association had decided that they would not take up the matter, therefore it would be impossible under the resolutions offered last year for this body to proceed further. For his part, after the ignominious manner in which he had been treated, he had no desire to further pursue the matter. His entire object had been only with the intention of securing a better work, and in accord with the advance of science, but he had been misunderstood, and pursued as if he had been guilty of some fragment wrong. If the medical profession were satisfied with the work as it exists, he was willing that it should be so, and he therefore moved that the whole matter be dropped.

Mr. S. A. D. Sheppard moved the following resolution:—

Resolved—

That while there is among the members of the American Pharmaceutical Association an honest difference of opinion as to the advisability of the plan suggested by Dr. Squibb, the thanks of this association are hereby tendered to Dr. E. R. Squibb, of Brooklyn, N.Y., for his earnest efforts during the past two or three years to inaugurate an improvement in the plan of revision of the United States Pharmacopœia.

The resolution was carried unanimously.

Dr. Squibb rose, and, with much feeling, stated that he accepted these resolutions and their spirit with emotion, and with his sincere thanks to the members for their hearty cordiality in the expression of their sentiments towards him. It came in marked contrast to what he had experienced on another occasion in another body, and he could not deny that he had at this time felt that the expression of their kindly sympathies would largely tend to mollify the treatment received at other hands.

Dr. F. Hoffmann then offered a preamble and resolutions setting forth that whereas the American Medical Association had failed to make arrangements to meet the wants of the profession, a committee of the Pharmaceutical Association should consider the advisability of preparing a pharmacopœia themselves. After some discussion this resolution was carried. Five members were appointed, and they subsequently recommended that a committee of fifteen members be appointed to carry out the suggested scheme. This was agreed to, and the president named the following to act on the committee:—

Charles Rice, chairman; F. Hoffman and P. W. Bedford, New York; J. M. Maisch, J. P. Remington and C. Bullock, Philadelphia; G. F. H. Markoe and S. A. D. Sheppard, Boston; J. F. Hancock, Baltimore; A. E. Ebert, Chicago; C. L. Diehl, Louisville; E. S. Wayne, Cincinnati; W. H. Crawford, St. Louis; Charles Mohr, Mobile; and E. Painter, San Francisco.

By unanimous request of the association, the name of William Saunders was added.

The committee, at the suggestion of S. A. D. Sheppard, were empowered to draw upon the treasurer for the sum of \$50.

Among the papers read were the following:—

REPLIES TO QUERIES.

Veratrum viride. As several different conclusions have been reached by late investigators in regard to the active principles of this drug, an accurate analysis is desired in order to definitely settle the subject.—By C. A. Ronnins, New York.

The writer claimed to have made a very careful and thorough examination of reliable *veratrum viride*.

The paper detailed the experiments at length.

The results did not appear to agree in all respects with other investigators. While *jervia*, *veratria*, resin and colouring matter were obtained, the mother liquor (from which some of these principles had been separated) yielded still another alkaloidal principle soluble in ether, and separating in the form of crystalline scales. This, he believed to be a substance different from any heretofore described, but from the small quantity obtained, as yet no definite results could be deduced. The name *veratridia* is suggested for this body, which is said to be quite poisonous, but still different in its action from the usual known products of *veratrum*. The claim to its different character seems to rest mainly on colour-tests, which are said to be quite distinct from similar reactions with *jervia*, *veratria*, &c.

The present official formula for the preparation of confection of senna directs the use of *cassia fistula*, a drug not always easily obtained, and consequently has caused the substitution of other and less active drugs. Cannot this formula be modified, or the *cassia fistula* substituted by some drug more generally in use?—By ADOLPH W. MILLER, Philadelphia.

The writer suggested an alteration of the formula, using the following proportions of materials:—

	Parts
Senna, in fine powder.. ..	8
Coriander	4
Tamarinds	16
Prunes	17
Sugar	30
Water, sufficient.	
The final product to weigh	96

The tamarinds and prunes are first treated with boiling water, strained through a fine sieve, this process repeated, the sugar is dissolved, excess of water evaporated till reduced to 84 parts by weight, when the powdered senna and coriander are incorporated.

Dr. Squibb said that cassia fistula could always be had of good quality. The difficulty lay more in the proper exhaustion of it. His practice was to dry it till the pulp was free from excess of moisture, then crush it very fine, when it was readily exhausted.

The present formula for cantharidal collodion contains but a very small quantity of alcohol, rendering the pyroxylon very difficult of solution. Cannot the quantity of alcohol be increased with advantage without materially interfering with the character of the film?—By JOSEPH ROBERTS, Baltimore.

The writer believes that an increase of alcohol to the formula of the U.S.P. is desirable as rendering it more readily soluble. Stating briefly his objections to the formula, he offers the following as largely in use and more acceptable:—

Powdered cantharides, 8 troy ounces.
Stronger alcohol, a sufficient quantity.
Stronger ether, a sufficient quantity.
Pyroxylon, 144 grains.

Mix equal bulks of stronger alcohol and stronger ether. Moisten the cantharides with 8 ounces of the mixture, pack in a percolator and add enough of the mixture to obtain 15 fluid ounces of percolate. Set this aside, and continue the percolation with the same menstruum until 4 fluid ounces more are obtained, evaporate this to 1 fluid ounce, and add to the reserved percolate. In this dissolve the pyroxylon.

Dr. E. R. Squibb said that the greatest difficulty was with the paroxysm of the market. He always used "Anthony's soluble cotton," and never had any trouble with the present formula. There are several grades of "cotton," and they varied in solubility. He thought that acetic acid or acetic ether should be used in the percolation as a more perfect solvent for the cantharidin.

It has been asserted that nearly all the white wax now found in the market is adulterated with paraffin, Japan wax, and stearine. Is this so, and how can the adulterants be accurately detected?—By P. W. BEDFORD, New York.

The writer stated that from examination and inquiry he was led to believe that fully 75 per cent. of all the "white wax" sold was adulterated. The bulk of this adulterated wax finds its use through other commercial outlets, and is employed by artisans and for domestic purposes, and a much smaller percentage of what is sold by druggists is adulterated. Nearly every wax bleacher, perhaps every one, makes a lower grade or cheaper priced white wax, which is usually sold with the understanding that it is not pure. The impurities are confined almost entirely at the present time to stearine, paraffin, or ceresin. These adulterants give wax a much whiter appearance than the usual sun-bleaching can ever do. Pure sun-bleached wax is of a cream colour, and when chewed does not cohere together. When of a dead white colour it is never pure. Paraffin and stearine are both of a lighter specific gravity than wax. Bleached or white wax which is of a lighter gravity than .950 or heavier than .970 should be rejected. Pure bleached wax is soluble in 5 parts of chloroform at 85° Fahr., but at a slight reduction of temperature it has the appearance of a smooth emulsion. Stearine may be detected by its ready saponification when a small piece of suspected wax is heated in a tube with dried carbonate of soda and water. Paraffin and ceresin are not destroyed by sulphuric acid, while wax is entirely carbonised.

The oleates of mercury, morphia, &c., have of late years been introduced into medical practice with considerable success. Give a standard set of formulas for their preparation, together with, if possible, a convenient and comparatively simple process for preparing pure oleic acid.—By W. S. THOMSON, Baltimore.

The writer gave a series of formulæ for these preparations, of which the noticeable features were the preparation of freshly precipitated oxide of mercury, and, in the case of some of the alkaloids, these were dissolved in alcohol before adding them to the oleic acid. He used purified oleic acid obtained from

E. R. Squibb. He also advocated the use of cosmolin as a substitute for a portion of the oleic acid.

Dr. Squibb stated that in his experience he had not failed to accomplish satisfactory results by taking the yellow oxide of mercury and dissolving at once in the oleic acid, without the use of heat. A 20 per cent. solution of oleate of mercury, which has the consistence of good butter or lard, is the most stable. Alkaloids were perfectly soluble in oleic acid, and it was unnecessary to use alcohol. He deprecated the use of cosmolin or other patented articles when equally good substitutes can be had cheaper.

Both Professor Remington and Professor Markoo said that both vaselin and cosmolin are liable to change and rancidity, and opposed their use.

Is there any difference in the quantity or quality of aqueous extract of aloe, when prepared with boiling or with cold water?—By GEORGE W. KENNEDY, Pottsville, Pa.

The writer states that the boiling water yields a larger quantity of extract than cold water will. Extract made with cold water is, however, much more active, and this kind should alone be made.

What is the amount of alkali in the commercial calcined and carbonate of magnesia?—By GEORGE LEIS, Lawrence, Kas.

In reply to this query the result may be briefly stated as follows:—

Sodium is always present in minute quantities in the magnesium compounds.

Heavy calcined magnesia, P. and W., gave 1.10 per cent. soda.

Heavy calcined magnesia, Husband's, gave 1.06 per cent.

In examining the carbonate and calcined magnesias no notice was taken of the small proportion of soda present, but the total alkali was estimated:—

Pattinson's carbonate of magnesia, 40.75 per cent. alkali.

Jennings' carbonate of magnesia, 39.72 per cent. alkali.

Jennings' light calcined magnesia, 78.01 per cent. alkali.

Several salts having been recommended to increase solubility of salicylic acid in water, it is desirable to ascertain whether any chemical change is produced thereby; an essay on the subject, with the investigation into the nature of such changes.—DAVID HAYS, New York.

The writer examined solutions of salicylic acid made with various solvent salts which were added to facilitate the solubility of acids, and he finds that they are not simple solutions of the separate bodies, but that some change takes place by which the acid combines with a portion of the alkaline solvent. When phosphate of sodium is added to the acid in definite quantities and the solution examined, there is found in it a noticeable quantity of salicylate of sodium, free salicylic acid, and the original monohydro-phosphate of sodium is changed to hydro-phosphate of sodium. The paper gives the details of the experiments, and it is evident that in every case a similar change is effected by the usual solvents.

Dr. Squibb, commenting on the subject of salicylic acid, said that the *dialysed* acid was the best form of commercial acid, but this still retained some impurities, which were separated by sublimation. The process for sublimation was almost identical with that for benzoic acid, but that it must be done over a carefully regulated steam bath, when it left a residue of dark colour. If done by dry heat, it readily decomposed. As an antiseptic he had used solutions of salicylic acid with great success in preventing the growth of microscopic fungi and in alkaloidal solutions.

Ergotin by Bonjean's method. Determine the yield when using alcohol of different strengths for the extraction of the aqueous extract, and give a working formula to secure a uniform result.—By GEO. ZELDKOFFER, New York.

The weaker the spirituous strength of the menstruum, the larger the yield of so-called aqueous extract. Ergot was exhausted with water, and the liquid was evaporated so that each fluid ounce represented the soluble principles of 4 ounces (av.) of ergot. The liquid was then divided in portions, and each portion treated with alcohol of different strength, and the

liquids evaporated separately to the consistence of a soft extract. The yield was as follows:—

Alcohol sp. gr. .817, yields	9.0	per cent.
" " .832, "	11.5	"
" " .860, "	15.0	"
" " .893, "	24.5	"

The following working formula is suggested:—

Fine ground ergot, 16 troy ounces; cold distilled water, 3 pints; macerate 12 hours, strain and express; to the ergot residue add cold distilled water, 3 pints; proceed as before, mix the liquids, evaporate by water bath to 4 ounces by weight, then pour it into 1 pint of alcohol sp. gr. .832. Mix. At the end of 24 hours filter, and evaporate by water-bath to the consistence of a soft extract. Yield, 11.5 per cent. This has a dark red colour, is perfectly soluble in water, and should be kept in a cool, dark place.

Glycerine is extensively employed in the manufacture of official and unofficial fluid extracts. What articles are proven, by actual experience in the laboratory, to be improved by the addition of glycerine, and in what manner does the beneficial power of glycerine in such extracts exhibit itself?—By J. U. LLOYD, Cincinnati.

Glycerine can be used advantageously in the preparation of the following fluid extracts:—

Cinchona, dogwood, geranium, gossypium, matico, pipsissowa, prunus, rhatany, rubus, uva ursi.

For the following it is not deemed better than water; belladonna root, colchicum root, colchicum seed, colombo, digitalis, ergot, gentian, hydrastis, hyoscyamus, sarsaparilla, sarsaparilla compound, senega, spigelia, taraxacum.

The writer is of the opinion that glycerine extracts vegetable astringent principles, and holds them in better solution than does water.

What is the nature of the union in the combination of equal parts of chloral hydrate and camphor?—By JOSEPH ROBERTS, Baltimore.

Mr. Roberts detailed several experiments to show that the union of these bodies was only a mechanical one, and that they may be separated unchanged into the constituents employed. There is a noticeable change in the boiling point of the mixture, but the fact that they may be separated unaltered forced the conclusion that no chemical change was involved in the process of solution.

An essay on the bromide production of the United States.—By H. S. WELLCOME, New York.

The Ohio and Kanawha springs yield a brine which holds twice as much bromine in solution as any other known. The principal factories are located at Parkersburg and Mason city, W. Va., and at Pomeroy, Ohio. The product is about 1,000 lbs. per day, although their capacity is about three times as great.

About 50,000 lbs. were exported the past year. Bromide of potassium is now becoming the favourite product for exportation.

ON OIL OF BAY.

By G. F. H. Markoe.

DURING the past year the writer had produced oil of bay, having worked up nearly four tons of the leaves imported by himself. From 200 to 300 lbs. of leaves was the usual charge in a 200-gallon still, and from this from 80 to 100 gallons of liquid were drawn off. The oil as obtained at first is colourless, but soon becomes darker, acquiring in time a light brown colour. The oil readily separates into two portions during the process, and from the first 15 gallons of distillate, by separating it fractionally, the oil had a varying specific gravity of .870, .930, .946, .964, .982, .990. From the following 65 gallons the oil was heavier than water, was much less abundant, and slower to distil. This portion had the sp. gr. 1.023, 1.035, 1.037. The oil when fresh is quite rank, and requires several months to "mellow." The crude heavy oil, redistilled fractionally, gave portions varying from 1.025 to 1.048, the portions up to 1.048 being colourless, then a light brown, and finally a dark oil nearly black in colour. The heavy oil has the odour of clove, is pungent and tingling to the taste; is soluble in alcohol of 95

per cent., in ether, petroleum, benzine, chloroform, and caustic alkalies, with the latter forming crystals, and is doubtless identical with eugenic acid. Other interesting details were given.

COLOGNE WATER.

By William Saunders.

THE writer states that, having received numerous requests for a formula for a good Cologne which resembled the "Farina" variety, he had made the attempt, and submitted a formula and samples of it, as also of the genuine Farina Cologne.

Oil of neroli	5 drachms 20 minims.
Oil of bergamot	1 ounce.
Oil of rosemary flowers	1 drachm 20 minims.
Pure alcohol	6 pints.
Water	2 pints.

The fragrance of this Cologne as compared with the foreign was scarcely distinguishable, and the formula is certainly an excellent addition to the "répertoire" of the druggist.

It was suggested that acetic ether was an excellent addition to such a Cologne for the sick room. In some comments made upon the quality of alcohol, Cologne spirits and deodorised alcohol as found in the market, several persons gave their views, and the different methods employed for purification were alluded to. It is generally conceded that what is sold as Cologne spirits is the first twelve hours' run of a clean still, and that this portion of an alcohol run is as good as any artificially purified.

DIALYSED IRON.

By William H. Pyle.

NOTICING the fact that chloride of sodium is one of the most rapid crystalloids to dialyse, the writer used a solution of carbonate of sodium to add to the solution of ferric chloride in place of the ammonia so generally recommended, and with great success. The solution of ferric chloride, which has been neutralised by a cold solution of carbonate of sodium, is poured into a floating dialyser. Starting with one pint of solution of ferric chloride—which, on being treated with the sodium solution and ready to dialyse, had a specific gravity of 1.176—it had in five days increased to five pints. The water in which the dialyser floated was changed daily. At the end of five days it had passed through the membrane all the crystalloids, was free from taste of foreign substances, and, owing to increase of bulk, had now the specific gravity 1.0295, and on evaporation yielded 5 per cent. dry oxide of iron. Too long dialysation will cause the solution of iron to become gelatinous.

NOTE ON OFFICIAL FLUID EXTRACTS.

By J. U. Lloyd.

THE writer thinks due weight is not generally given to the construction of apparatus for percolation. In his judgment cylinders should be the only form of percolators, and they should be greater in height in proportion to diameter than those usually made. For 16 troy ounces the drug should occupy at least 15 inches in height.

For the following fluid extracts the writer prefers the use of strong alcohol:—Digitalis, hyoscyamus, matico, belladonna root, hydrastis, canadensis, stillingia. The product though lighter in colour is more satisfactory in effect. If the present process is retained, then he suggests that the final menstruum used should be a mixture of three parts alcohol and one of water for the following:—Belladonna root, hyoscyamus, matico, stillingia, colchicum root, colchicum seed. For hydrastis and colombo the use of a final menstruum of seven parts of alcohol and one of water is preferred.

The present process for ergot he does not favour, neither does he think the use of acetic acid desirable, but prefers the use of a menstruum of one part alcohol to three parts water. Since last meeting he had noticed but one specimen of gelatinised fluid extract of gossypium of his own make, and but few of others. Fluid extract of gennium sometimes gelatinises; the formula recommended for fluid extract gossypium will, if adapted to geranium, remedy this difficulty. The writer also recommends the alteration of the formula for fluid extract of ipocae in order to prevent precipitation of resin.

ON THE CONSTITUENTS OF THE RESIN OF *PODOPHYLLUM*.

By F. B. Power.

A VERY lengthy and exhaustive paper was submitted, giving the examination and its results of this now quite famous purgative. The general conclusions are that there are two distinct resins in *podophyllum*, one of which is neutral. Both these resins are again divisible into two portions, one soluble in ether, the other insoluble. The rhizome contains a volatile acid which is fatty, and is believed to be myristic acid, and it is thought is the odorous principle in the plant. The active portion of the resin is soluble in hot water.

HYDROBROMIC ETHER.

By J. P. Remington.

This paper detailed the method of preparing the ether very satisfactorily, using amorphous phosphorus, absolute alcohol and bromine. 36 troy ounces of absolute alcohol are put in a flask and set on ice or in cold water; 10 troy ounces of amorphous phosphorus are added to the cold alcohol and shaken. A glass-stoppered bottle which will hold 26 troy ounces of bromine is provided; this quantity of bromine introduced, the stopper secured so that when inverted the bromine shall escape by drops only into the mixture, which must be kept cold. After standing twenty-four hours, and all reaction has ceased, distil by water bath. Wash the distillate with water, and if acid to litmus, add soda solution. Separate and redistil from fragments of chloride calcium.

The ether is transparent, colourless, has sp. gr. 1.40, vapour density 3.754, and is very volatile. It is soluble in all proportions in alcohol or ether, sparingly soluble in water.

"NICOTINE" POISONING.

A SAD case of so-called nicotine poisoning occurred recently at Highgate. A little boy, of seven years old, was amusing himself by blowing bubbles from a clean tobacco pipe. By and by the pipe broke, and he asked his father for another; the father unfortunately gave him an old foul wooden one, the result being that the child swallowed sufficient tobacco oil to bring on violent vomiting and convulsions, from which he speedily died. The doctor, who was called as a witness at the inquest, certified that the child was poisoned by nicotine. We cannot, of course, expect that a medical man should have all the latest chemical discoveries at his fingers' ends, but at least he ought to be well posted up in the latest researches on the action of well-known poisons. Had the witness in question made himself acquainted with Vohl and Eulenberg's investigations into the properties and composition of tobacco smoke, published as far back as 1871, he would have known that the unfortunate child was not poisoned by nicotine. Nicotine only exists in the unburnt leaf or juice, and the heat of combustion splits it up into other compounds. Tobacco smokers ought to be interested in knowing what it is they really take into their lungs and mouth when they indulge in the fragrant Havannah or Bristol bird's-eye.

The researches of Vohl and Eulenberg were made upon a quantity of strong tobacco, containing 4 per cent. of nicotine, part of which was burnt in a pipe and part as cigars. The smoke was first drawn through a solution of dilute sulphuric acid to separate the alkaloids, and then through a solution of caustic potash to separate the acids. The gas given off by the cigars was also tested, and found to contain oxygen, nitrogen, carbonic oxide, and marsh gas.

The potash solution speedily turned brown, and an oily substance collected on the top, which, on cooling, assumed the consistence of butter. By fractional distillation it yielded several liquid hydrocarbons of the benzene series, and a white pearly solid, closely resembling paraffin. The liquid hydrocarbons contained no benzene, as they could not be made to yield aniline by the ordinary process. Carbonic oxide, hydrogen, sulphide, and hydrocyanic acid were also detected in the residue. The solution itself was then examined, and found to contain acetic, pomic, propionic, butyric, valeric, and car-

bolic acids, besides creosote and a dark brown resinous substance. The sulphuric acid solution was next examined, and found to contain the following alkaloids of the pyridine series — ($C_n H_{2n-2} N$) :—pyridine, picoline, lutidine, collidine, parvolino, coridino, rubidine, and viridine, besides certain quantities of ethylamine and ammonium chloride. Not a trace of nicotine could be discovered, although its detection is comparatively easy, owing to its forming, with zinc, a double salt, which is almost insoluble in alcohol, a property not possessed by similar salts of the pyridine series; thus confirming the observations made in 1843 by Weise, who was the first to discover that nicotine did not exist in tobacco smoke. The corresponding solution from the cigar smoke contained comparatively little of the very volatile and stupefying pyridine and picoline. This readily accounts for the fact that many smokers are able to indulge in several cigars at a sitting, whereas half a pipe of mild bird's-eye would upset them directly. It is, no doubt, for the same reason that Turkish tobacco, which contains a mere trace of nicotine, although perfectly mild when consumed as a cigarette or in a long-stemmed chibouque, cannot be smoked in an ordinary short pipe without burning the tongue and throat.

The pyridine series of alkaloids, which range from pyridine, C_5H_5N , to viridine, $C_{12}H_9N$, are found in the fetid oil obtained in the distillation of bones, in the tar left as a residue after the distillation of the bituminous shale of Dorsetshire, in coal tar and Boghead mineral naphtha, in peat tar, and in the products of the dry distillation of cinchonine. Messrs. Vohl and Eulenberg also obtained them by the dry distillation of dandelion, willow wood, and stramonium. They are all thin mobile and colourless liquids, with a peculiar odour. They are soluble in water, and difficult to obtain in an anhydrous condition. They are all lighter than water, and their boiling points vary from 242° to 483° F. They form difficultly crystallisable salts with the acids, but their double chlorides with platinum, gold, and copper crystallise with facility. Messrs. Vohl and Eulenberg consider that the stupefying effects of opium when smoked in a pipe are due not so much to the opium alkaloids as to certain members of the pyridine series which are formed during its combustion.

At last meeting of the British Medical Association held at Manchester in August last Professor M'Kendrick, of Glasgow, read a paper "On the Physiological Action of the Chrysoline and Pyridine Series of Compounds," giving an account of the researches which he has been carrying on for the last four or five years, with the co-operation of Professor Dewar, of Cambridge, and Dr. Ramsay, of Glasgow. The memoir will shortly be published, and with such collaboration cannot fail to throw considerable light on the effects of tobacco smoking on the human system.

According to the paper read at Manchester there is no appreciable difference between the physiological action of the basis derived from cinchonine and those obtained from coal tar. These alkaloids seem to destroy life either by exhaustive convulsions, or by gradual paralysis of the respiratory centres, thus causing asphyxia. These symptoms correspond exactly with those exhibited by the poor child spoken of at the beginning of this article. According to Messrs. Vohl and Eulenberg the physiological effects of the pyridine series are contraction of the pupil, difficulty of breathing, general convulsions, and congestion of the lungs, death taking place from asphyxia. They also found that each base is more poisonous than the other as it ascends the series.

In conclusion, it is to be hoped that for the future when tobacco smokers wake in the morning with parched tongues and palates they will not place them to the account of that much-labelled alkaloid mixture, but that they will lay the blame on the shoulders of pyridine, picoline, and the rest of those prettily-named but deleterious sister sirens.

Since the above was written another death has occurred through making too free with that very sharp-edged tool, tobacco. An inquest was held at Lambeth on the 6th inst., on the body of a boy of fourteen who evidently died from tobacco poisoning. It seems that this unhappy boy had acquired the habit of smoking tobacco so continually that he often became delirious. A couple of days before his death he had smoked all the morning, and having complained of a severe pain in his chest he was put to bed. The next day he was found dead. On the morrow an inquest was held, and the coroner and jury accepted the medical testimony, which, according to the local papers, showed that death resulted from "nicotino, an oil extracted from tobacco."

NAMES OF BRITISH MEDICINAL PLANTS.

By W. G. PIPER.

Hyoscyamus.—1.

HYOSCYAMUS is a name familiar to all druggists, herborists, and mediciners, and it seems possible that it may even become a household word. The homœopaths, who, among other things, are doing so much to familiarise the public with the names of drugs, have introduced *Hyoscyamus* as one of their remedies; and although it is not such a favourite as *Calendula Nux* or *Arnica*, it has a fair chance of becoming a "vulgar name." The curious combination of consonants in the word is puzzling to some tongues, and we occasionally find them curiously mixed.

Ever since the days of Pedacius Dioscorides, the first of European botanists to treat of plants specifically, the word *hyoscyamus* has been in constant use, and in a somewhat disguised form it is still a colloquial word in more than one European language. There is little doubt that throughout this long period it has not changed its meaning, and that the plant Dioscorides meant when he used the word could not be distinguished by an unbotanical eye from that which now bears the name.

One dictionary maker, J. M. Duncan, who published at Leipzig in 1831 a Greek dictionary with Latin explanations,* has contrived a delightful confusion. *Hyoskyamos* he does not explain, but refers us to *Kyamos*. *Kyamos*, he says, is a bean (*Faba*), and especially that species which the Germans call *Wälsche hohnen*, vulgo *Saubohnen*, and which the Greeks knew as *hyoskyamos*. *Wälsche Bohnen* and *Saubohnen* are explained by a parenthesis as "kidney beans." Kidney beans are otherwise known in England as French beans, and although we have no exact equivalent of the German *Wälsche Bohnen*, we have a curious example of the application of the names *Wälsche* and French to the same object. Walnut used to be called French nut. The latter has entirely fallen out of use, and would not now be understood. It is a fossil only found in books. Mux Müller, in his "Lectures on the Science of Language," tells us that walnut is called in German *Wälsche Nuss*;† in Lithuanian, *Itóliskas rësutys*, Italian nut; in Russian, *Grézkoi orjechi*, Greek nut; in German it was also called *Lamberts-nuss*, *Nux Lombardica*. In Gerarde's "Herbal," *Walshnut* is given as the English name, walnut in the index. What is the idea which connects these various names, Italian, Greek, Lombardy, French, and Welsh? Readers of Edgar Allan Poe's thrilling essays will remember one in which a similar question occurs, and the manner in which it is settled will help us here. These five countries have nothing in common with each other, except that Italy is a foreign country in the south to the Lithuanian and German, Greece to the Russian, Lombardy to the German, France to the Englishman, and Wales (or rather the Welsh) to our Anglo-Saxon forefathers, from whose *wealh-hnut*‡ we get our walnut. And these facts point to the conclusion that, while the walnut may be a native of France, Italy, and Greece, it certainly has been introduced into England, Germany, Austria, and Russia. The Germans have corrupted *Wälsche Nuss* into *Wallnuss*, just as we have corrupted *Walsh nut* into walnut. This curious list of names leaves us no room to doubt that the *Wälsche Bohne* or French bean has, like the walnut, been introduced from southern climes, and fully explains the occurrence of two such different countries as Wales and France as distinguishing adjectives for the same plant.

This does not clear up the confusion which J. M. Duncan has created. It is possible that of all species of bean the *Kyamos* may have specially pointed out the kind we now call kidney bean. But that this was also called *Hyoskyamos* is less probable; and it will require more than Duncan's unsupported assertion to substantiate the statement that *Hyoskyamos* and *Saubohnen* are synonymous with *Kyamos*, *Wälsche Bohne* and kidney bean. This is one of the inexplicable entanglements which persons who are not botanists fall into when they attempt to define and expound what they do not understand.

It is only worth mentioning as an example of the clouds which hide the origin of popular names.

From the *Hyoskyamos* of Dioscorides we can trace a long line of descendants in the Romance languages; and from the usually propounded etymology a like series of words in both Teutonic and Romance branches. First come the Latin forms of the name, it being premised that neither of them is the common name of the plant in the sense that henbane is. The commonest form is the one we now use, namely, *Hyoscyamus*.* Pliny gives this word in his "Historia Mundi" (book xxv., chap. iv.), but only as the name used by the Greeks. C. Mentzell, in his "Lexicon Plantarum Polyglotton," published in 1582, gives also the forms *Hyosquinmus* and *Hyosciamus*. Palladius, a Latin physician who wrote on fevers, and Vegetius, a Greek (corrupted to *Vegèce* by one of the French writers), are both blamed by the authorities for corrupting the word to *Jusquiamus*;† so furnishing a new step in the growth of several words. John Gerarde says that in his time (1597) it was called *Jusquiamus* in shops. The common Italian name is *Giusquiamo*, but this word is made by various writers to assume as many shapes as Proteus. For instance, Gerarde makes it *Hyosquiamo*; John Minshew, in his "Englishman's Guide into Foreign Tongues,"‡ gives *Insquiamo*, *Iusquiano*, and *Hiosciamus*; Mentzell gives *Jusquiamo* on the authority of Matthiolus; and Donkin, in the "Etymological Dictionary of the Romance Languages," gives *Giuschiamo*, besides the ordinary form.

Although this multiplicity of forms may be regarded as confusion, yet it certainly leaves no doubt as to the origin of the word. In the last-mentioned work, and there only, we find *Josquiamo* given as the Spanish name. This is very rarely used, and is probably a mere fossil. The same may be said of the Portuguese *Yosciamento*, given in Dorvault's "Officine." In the curious and interesting French and English dictionary published in 1603 by "Mr. Randle Cotgrave, Gent.," we find the petrefactions *Hyascyame* and *Husciamie*. The modern name *Jusquiamie* appears there and in every succeeding dictionary, and is probably much older. It is sometimes spelt *Jusquiaume*. Unless we may include the form *Jusquiamie* found in the "Grete Herball" (1526), a translated work, we must stop at the French word *Jusquiamie*. It is not probable that the word was ever naturalised in English.

It is not difficult to trace the downward course of *Hyoscyamus*, and there seems to be great unanimity among authorities as to the path that should be pursued in following it to its source. We will give the etymology most of them propose, the names which that etymology has given rise to, and then contrast the explanations that have been proposed for it.

Authority after authority asserts that *hyoskynmus* is derived from the Greek words *hys*, *hyos*, *sus*, a hog, and *kyamus*, a bean, and that its meaning is therefore hog-bean. This word has been translated, and has so given rise to many names for the plant. Hog-bean is to be found in more than one English herbal. In Low Latin we have *Faba porcina* and *Faba suilla*. Minshew gives *Fava porcina* as a secondary Italian name. *Sauböhnchen*, *Seubohne*, *Schweinsbohne* are German, according to Duncan, Mentzell, and Campe. *Sodbonne* is Danish, according to Dorvault. The French *Porcelet* used for this plant has probably some misty connection with *Hyoscyamus*. Both it and *Chenille* are names for the henbane, and also for the cloporte, known in English as the wood-louse, sow-hug, and in Norfolk as sow. It is probable that from some indefinite remembrance of the meaning of *Hyoscyamus* *Porcelet* was first applied to the plant, while *Chenille* was confined to the sow-bug. When the reason for the distinction was forgotten *Porcelet* and *Chenille* would become confused, and would finally be used for both plant and insect. Otherwise *Chenille* as a name for this plant is very difficult to explain.

What is the connection between hogs and *hyoscyamus*? Hooper, in his "Medical Dictionary," says that the plant was so called because hogs ate it as a medicine, or, perhaps, because the whole plant is hairy like a hog. Ménage ("Dictionnaire Etymologique de la Langue Française," Paris, 1750) quotes from Elien (Ælianus) that hogs which have tasted the henbane fall into convulsions. Mayne, in his "Lexicon of Scientific Terms," says that it is so called because wild boars, or even domestic hogs, which pasture where it grows are observed to have their bowels much loosened. J. A. Beckmann, in his

* "Novum Lexicon Græci," ex C. T. Damil, Lexicon Homer. Pindar.

† The original meaning of *Wälsche* in German is barbarians, foreigners, thence especially Italians. Italy is now called *Welschland*.

‡ *Wealh*, plural *wealas*, is the Anglo-Saxon name for the former Celtic inhabitants of Britain.

* The *c* had of course the hard sound of *k*.

† *J* had the sound of *y* till a comparatively late period.

‡ A large folio, published 1617, and said to be the first work published by subscription in England.

"Lexicon Botanicum" (1801), quoting from *Ælianus*, gives his reason for the derivation:—"Quod apri ovis pastu resolvantur et convellantur presenti meritis periculo nisi aqua copiosa se sorio et intus polluerunt." Grimm, in his "*Deutsches Wörterbuch*," quotes an old author who says that when the wild hogs have eaten this plant they seek for crabs, and eat them to neutralise the effects of the poison.* These authorities say, therefore, that hogs eat it, and that it has either a medicinal or poisonous effect on them.

Ogilvie, in his "*English Dictionary*," under the word *heuhane* after describing the poisonous effects of this plant on man and other animals, says, "Swine, however, are said to eat it with impunity."*

Alcock, in his "*Botanical Names for English Readers*," says that it is so called "because hogs are said to eat the fruit, which is something like a bean." The "*Encyclopædia Perthensis*" gives the same reason, except that *kyamus* is said to refer to the kidney-shaped seeds and not to the fruit. The author of the "*British Flora Medica*" says "hogs eat it with impunity." The fourteenth edition of Wood & Bache's "*United States Dispensatory*" states, that "though it is fatal to birds and dogs, the leaves are eaten with entire impunity by horses, cows, sheep, goats, and swine." These authorities state that hogs eat it, but are not affected by it.

Experiments instituted by Linnæus and most carefully conducted prove that swine refuse to touch it!

THE MERCHANDISE MARKS ACT AND THE TRADE MARKS REGISTRATION ACTS.

IN the new journal, *Trade Marks*, the distinction between the two Acts named above has been lately discussed, and as the subject is interesting to a great many people in business we reproduce the article.

One of the most important questions that arise under the Trade Marks Acts of 1875 and 1876 is the effect they have had on previous legislation. The Merchandise Marks Act and the Exhibition Medals Act still remain in the Statute Book un repealed by any direct enactment; but an opinion has been frequently expressed that, although not directly, they are indirectly repealed, that though they still remain in the Statute Book their provisions can no longer be enforced. Of course, if it is really so, this is a most important change in the law, a change probably never contemplated by the framers of the Trade Marks Acts. We propose, therefore, to consider the position that the Trade Marks Acts occupy with regard to previous legislation, and think that we shall be able to prove that the fear of the old Acts being virtually repealed is groundless.

The Merchandise Marks Act (25 & 26 Vict., c. 88) was passed in the year 1862, its object being "to amend the law relating to the fraudulent marking of merchandise, and to the sale of merchandise falsely marked for the purpose of fraud." It defines mark "as including any name, signature, word, letter, device, emblem, figure, sign, seal, stamp, diagram, label, ticket, or other mark of any other description," and trade mark "as including any and every such name, signature, word, title, device, emblem, figure, sign, seal, stamp, diagram, label, ticket, or other mark as aforesaid, lawfully used by any person to denote any chattel or (in Scotland) any article of trade, manufacture, or merchandise, to be an article or thing of the manufacture, workmanship, production, or merchandise of such person; or to be an article or thing of any peculiar or particular description made or sold by such person; and also includes any name, signature, word, letter, number, figure, mark, or sign which, in pursuance of any statute for the time being, or for, or relating to, registered designs, is put or placed upon, or attached to, any chattel or article during the existence or continuance of any copyright, or other sole right acquired under the provisions of such statutes, or any of them."

We have cited this definition of a trade mark at length in order to show how very extensive are its terms when compared with the definition in the Trade Marks Registration Act of 1875. It includes all names or marks, all labels, anything registered under the Registration of Designs Act. A great many things that are not trade marks are included in it. It

was necessary in order to carry out the purpose for which the Act was passed—the prevention of the sale of merchandise falsely marked for the purposes of fraud—to have a most sweeping definition, for the Act is a penal one, and, according to the well-known rule, must be construed strictly; if, therefore, a narrow definition of the words mark or trade mark had been given, the very object of the Act would have been defeated. For, in the first prosecution under the Act, the defence would have been that what had been imitated was not a trade mark as defined by the Act; and, therefore, the imitation of it was not an offence against the Act. The object of the Act was the protection of the public by making the forgery or false application of a trade mark a misdemeanour.

But when we turn to the Trade Marks Registration Act, 1875, we find a very different state of things. The object of that Act was not the protection of the public against fraud, but the protection of the manufacturer against infringement. True, the protection of the manufacturer is the protection of the public; but this is only incidental to the main object of the Act. It gave to the registered owner of a trade mark certain rights and certain privileges which he had not before possessed; it made his trade mark part of his personal estate, as much so as any other of the numerous items of which that estate consists; and, therefore, the object of the Act being to give private rights of ownership, the definition of a trade mark had to be limited and confined to those trade marks that were private property. The idea of private ownership runs through the whole definition of a trade mark given in the Trade Marks Registration Act, 1875. "A name of an individual or firm, printed, impressed, or woven in some particular or distinctive manner, or a written signature, or the copy of a written signature of an individual or firm, or a distinctive device, mark, heading, label, or ticket; and there may be added to any one or more of the said particulars any letters, words, or figures, or combination of letters, words, or figures; also any special or distinctive word or words, or combination of figures or letters used as a trade mark before the passing of the Act." A moment's glance at this definition shows the limitation it places upon the very wide definition given in the Merchandise Marks Act. Here the essence of the trade mark is, that it should be distinctive. There the word distinctive does not occur.

If the mark be the name of an individual or firm, it must have something special and distinctive about it. If a device, heading, label, or ticket, it must be distinctive. If it be a word, or combination of figures or letters, it must be distinctive. If we turn to one of the cases decided under this section, this point is brought out very clearly. Application was made to register the word *AEILYTON*. It was refused on the ground that a word or a distinctive combination of letters was not a trade mark within the Act, unless it had been used before the Act came into operation. But such a word is clearly within the Merchandise Marks Act, and no person who sold his own ink as Mr. Stephens', and put *AEILYTON* on the bottle, would be able successfully to defend a prosecution for misdemeanour on the ground that, although the word might be a trade mark under the Merchandise Marks Act, it was not one under the Trade Marks Registration Acts.

The difficulty, if difficulty there be, for it seems almost too plain to need argument, has arisen under the first section of the Trade Marks Registration Act, 1876; that section provides "that after July 1, 1877, a person shall not be entitled to institute any proceedings to prevent or to recover damages for the infringement of any trade mark as defined by the Trade Marks Registration Act, 1875, unless and until such trade mark is registered in pursuance of that Act." But this section seems to have been most carefully framed, so as to avoid any question of the clashing of the two Acts. It states, not that no proceedings shall be taken against any person, but that certain proceedings, namely, to prevent infringement or to recover damages, shall not be taken, thus applying the well-known rule, *expressio unius exclusio alterius*, to the case, and thereby distinctly implying that all other proceedings may be taken. And if we bear in mind the object of the two Acts, the reason is obvious: to protect your property, you must, first of all, establish your right to that property. Trade marks are a peculiar form of property, and the law determines that the right to them shall be proved in a peculiar way, and until you have done this the law refuses to give redress; for until you make out your title it may well be that the title of the other person is as good as yours. Prove your right before we help you. But, in proceedings under the Merchandise Marks Act,

* This is not given as an etymology.

the case is wholly different; here there is no question of ownership as between the two persons who use the mark, there is no question of title between them and a person who with intent to defraud or to enable another to defraud the public forges or counterfeits a trade mark to which he has no right. It is not a case of infringement, it is a question of intent to defraud. It is not an offence to forge a trade mark: it is only an offence if it is done with intent to defraud, and it is the interest of even rival owners of trade marks that the public should not be defrauded by spurious imitations of these marks. It is really like the recent contest between the *Shah* and the *Huascar*. As long as the South American republics like to fight among themselves, let them do so and do not interfere; but as soon as they begin not only to fight among themselves but to become *hostes humani generis*, then it is the interest of both parties that the depredators should be stopped promptly and at once, not by civil but by criminal proceedings.

APPROXIMATE QUANTITATIVE TESTS.

By J. BARKER SMITH.

Eighth Paper.

VI.—QUININE (*continued*).

PHARMACY does not always demand chemical purity, and admixture greatly interferes with the absolute value of tests. The relative solubility of bark alkaloids in ethylic menstrua will afford some important differences. Two general methods of application:—

Rectified Spirit Method.—In a test tube place a cubic centimetre of spirit, and add one decigramme of alkaloid sulphate; cinchonine sulphate and hydrochlorate and ordinary quinine sulphate dissolve; quinine sulphate undissolved: a few drops of liquid ammonia carefully added, quinine dissolves, cinchonine, &c., undissolved.

Ether Method.—Alkaloid salt, one decigramme is dissolved in a few cubic centimetres of acidulated water, ammonia added, and a cubic centimetre of ether floated for a few minutes; quinine and amorphous alkaloid dissolve.

Fusion Temperature.—A porcelain cup of mercury may be used as a bath. A regular method of procedure in every particular, when supplemented by attentive observation, will give comparative results even with moist alkaloids. The fusion test should be applied to the verification of the alkaloid obtained in the citrate of iron and quinine estimation. Some citrates of iron and bark alkaloids in aqueous solution (1–10) produce a turbid mixture on addition of spirit. Samples of commercial quinine examined fused under 260° Fahr.

The following results of the examination of air-dried alkaloids prepared from the commercial sulphates of reputable makers have a significant, although limited, value. Fusion point was taken at surface of the mercury: much higher temperatures when bulb of thermometer rests on the bottom of the bath. Figures relate to Fahrenheit's thermometer, and to decolorising power by the permanganate estimation. Quinine was previously dried on bath before fusion temperature was taken.

Quinoidin, 260° and .025 gramme, dialysed .03 gramme.

Quinidia, 320° and .03 gramme.—It dissolved in 4,666 parts of distilled water at about 60°. No immediate turbidity on addition of ammonia.

Quinia, 315° and .019 gramme.—By trituration, maceration, agitation, and filtration, one part dissolved in 1,052 parts of water. Immediate turbidity on addition of ammonia, becoming clear on the addition of more water. Equal volumes of solution and water not turbid when ammonia is added.

Cinchonidia, 340° and .028 gramme.—Dissolved in 2,321 parts of water. Turbidity on addition of ammonia.

Cinchonia, 400° (over) and .020 gramme.—Dissolved in 8,750 parts of water. Immediate turbidity on addition of ammonia.

In the permanganate we have a ready means of ascertaining rate and extent of solubility, results affording tests. It introduces also a method of testing which may be characterised as that by fractional solution, *e.g.*, a hundred parts of rectified spirit, whilst dissolving some cinchonine salts freely, will dissolve about one part of quinine sulphate. Hence, if half a gramme be triturated with 10 cubic centimetres of spirit, and

the process repeated, two solutions will be obtained having the same decolorising power, and if the 10 c.c. filtrate be diluted with acidulated water to 100 c.c., this decolorising power would approximate to the normal quinine solution, departures denoting admixture. A little consideration will explain why a modification of the above process is followed in an actual examination. Sulphate of quinine, decolorising power .02 gramme, half a gramme triturated with sufficient spirit for 10 c.c. filtrate. Process repeated with undissolved quinine. Of the solutions diluted with acidulated water to a hundred cubic centimetres, 20 and 30 cubic centimetres respectively were required to decolorise the 50 c.c. permanganate.

First Filtrate.	Quinine.	Second Filtrate.
20 c.c. =	.02 gramme	= 30 c.c.

Other substances dissolved from the half gramme quinine by the first filtrate were equivalent to somewhat more than six milligrammes of quinine.

The sample of quinine sulphate may thus be supposed to contain one and a-half per cent. of cinchonine equivalent. Results easily affected by slight causes, for instance, alkalinity, acidity, &c.

Cortex Cinchonæ.—Sample (as in former experiments), 5 grammes, liquid ammonia 4 c.c., percolated and re-percolated with rectified spirit to 25 c.c. Decolorising power of bark, as by official tincture, .16 gramme. Process repeated, one percolation without ammonia, .8 grammes. Marc further percolated with acidulated water to 50 c.c. or apparent exhaustion, gave for marc the decolorising power of .24 gramme, and indicated by lead precipitation and permanganate estimation, a total for marc of 3 centigrammes of alkaloid or .6 per cent.

The mixed tinctures (1–10) gently warmed with acetate of lead and filtered cold, filtrate diluted five times and submitted to permanganate, indicated for bark 3.9 per cent. of alkaloids (sulphate of quinine standard). Total percentage would thus be 4½. Higher results (1 per cent.) obtained by diluting tincture before the addition of the acetate of lead. If a comparison of former results be made, imperfect exhaustion, supplementing higher standard, must be remembered. Chloroform experiment, allowing for defective exhaustion, indicated 3.1 per cent. of impure alkaloids. The supplementary examinations with quinine denoted loss of quinine, on immediate filtration, by zinc and lime methods, but not by that of lead.

The percolate in the lime process was coloured, but the eye readily detects the tint in a one per hundred thousand alkaline solution of cinchonine red. Decolorising power of a sample of air-dried ammoniacal cinchonine red, .014 gramme.

Extractum Cinchonæ Liquidum.—Sample of bark used up for this experiment. Percolation to definite official quantity. The percolate indicated about a third of the oxidisable matters capable of being extracted by official tincture process. Permanganate denoted less than ¼ths of total alkaloids extracted.

Marc, from liquid extract, air-dried and submitted to ammonio-spirit process, indicated for marc a decolorising power of only .24 gramme, but a percentage of alkaloid of 2.5. One cubic centimetre of liquid extract, diluted to 25 c.c., with water, treated with acetate of lead and filtrate diluted four times, gave a percentage of 6.6 per cent. alkaloid, or 6.0 by weight, permanganate process. These results determine one part of extract to be equivalent to six parts of tincture, not to twenty. If the ammoniacal ether test be applied to the liquid extract of bark, the ethereal extract should be dissolved in acid and reprecipitated by ammonia before the application of the fusion temperature test.

Another sample of bark was examined for suggestive and comparative results.

Ammonio-spirit extraction to ten parts. Decolorising power of bark, .16 gramme. Percolate divided and parts severally treated with about 10 per cent. of zinc acetate, calcium hydrate, and lead acetate; filtrate diluted five times. Percentage results for bark:—Zinc, first filtrate, 9 alkaloid; second filtrate after standing, 5.5; gelatinous precipitate left on filter. Lime and lead, 6 in each case. An experiment determined that spirituous decoction, bulk for bulk, extracted one-tenth more oxidisable matters from the cinchonine-lime cake, used in some estimations, than cold spirituous percolation. Further, the cinchonine lime marc, treated with eight volumes of spirit, was so far exhausted that a repetition of the process indicated only .2 gramme alkaloid per 100.0 bark. A gravimetric estimation by lime and spirit process (15 grammes bark) gave a percentage of only 2.7 impure alkaloid. The permanganate applied to the

spirit porcolato had determined a possible percentage of 3.7 alkaloid (quinine sulphate standard). In the absence of evidence that the lime process is defective, we may say that the results by the permanganate are somewhat too high when applied to cinchona. The test indicates an approximate percentage of alkaloid in the various salts, *e.g.*, cinchonidine tartrate, &c., and if patiently applied will in many cases give a complete mastery over admixtures of bark alkaloids. Indirect experiments supplementary to my papers appear to justify my opinion that chemical reactions, and physical rather than vital circumstances, will help to explain the formation of some alkaloids in plants. My crude observations have been derived from the behaviour of ammoniacal compounds with tannin, phenol, sugar, &c., when submitted to dry distillation, oxidation, fusion, exposure to light, &c. In tannin will be found a subtle agent of change amongst the vegetable excreta, and I am not aware that its rôle has ever been followed up. To my mind the investigation will amply repay the worker.

Scientific Notes from Foreign Sources.

ON THE ALTERABILITY OF CALOMEL AND THE PRECAUTIONS NECESSARY IN ITS THERAPEUTICAL EMPLOYMENT.

By M. JOLLY, PHARMACIEN.*

Owing to the report which appeared in the Italian pharmaceutical papers, on the formation of corrosive sublimate in a mixture of calomel and sugar, the president of the Society of Practical Medicine engaged the author to make some experiments to clear up all doubt on this subject.

Calomel has a decided tendency to decompose into mercury and corrosive sublimate, and many physical and chemical agents facilitate this decomposition. The author has investigated the action of these various agents, and embodies his results in the paper before us.

Heat always causes decomposition to a greater or less extent. Perfectly pure and dry calomel, sublimed alone, takes a grayish tinge from the liberation of metallic mercury.

Light causes the change into mercury and corrosive sublimate to take place rapidly, as evidenced by the change in colour.

One gramme of calomel digested with 100 c.c. of a 2 per mille solution of acid hydrochlor. for six hours, at a temperature of 104° Fahr., yielded 3 milligrams of corrosive sublimate.

The same quantity digested with 5 per mille solution of sodium chloride yielded at the end of six hours 1 milligram of sublimate.

A 2 per cent. solution of citric acid (to represent fruit preserves, in which calomel is often administered) caused the production of one milligram of sublimate.

The hydrochloric acid and sodium chloride represent the gastric juice. When calomel passes into the intestines, it comes in contact with the alkaline secretions of the bowels.

A ½ per cent. solution of sodic hydrate, after digestion for six hours at 104° Fahr. with one gramme of calomel, gave rise to six milligrams of corrosive sublimate.

Under similar circumstances a 1 per cent. solution of sodic carbonate gave rise to 4 milligrams, and a 1 per cent. solution of calcined magnesias to 3 milligrams of mercuric chloride. One gram each calcined magnesias and calomel were mixed, and at the end of 24 hours were treated with distilled water. One milligram of sublimate was found. Lime acts like magnesias. Neither carbonate of lime nor magnesias had the least effect at the end of six hours.

From these experiments the author draws the conclusion that calomel when used therapeutically must not be mixed with inferior sugars, which are always acid or alkaline, nor with the alkaline chlorides and earths, solutions containing alkaline hydrates or carbonates, or mineral or vegetable acids.

THE ALKALOID OF PAO-PEREIRA *GEISSOSPERMUM LEVE* (BAILLON).

By MM. BOCHFONTAINE AND C. DE FREITAS.

The bark of the Pao-Pereira has been largely used in Brazil since 1830, when J. Silva first made known its febrifuge and antiperiodic properties.

The tree belongs to the natural order Apocynaceæ, and has been variously named *Picramnia ciliata*, *Vallesia punctata*, *Tabernaemontana laevis*, *Geissospermum Vellozii*. M. Baillon, by means of a specimen of the leaf and stalks received from Brazil by one of the authors, has recently determined the botanical position of the Pao-Pereira, and has proposed the name *Geissospermum leve*.

M. Ezequiel Santos pointed out, in 1830, that the bark contained a large quantity of alkaloid, and proposed pereirine as its name. The authors suggest that this should be changed to geissospermine, in conformity with the generic name of the plant.

Although this alkaloid has been in daily use in Brazil for more than thirty years no attempt has been made to determine specifically its therapeutic properties. The authors have made numerous experiments on frogs and mammals with the view of supplying this information. They sum up the results of their labours as follows:—The active principle of the *Geissospermum leve* is a paralyzing poison, which appears to act by destroying the physiological properties of the grey nerve matter, and especially that of the cerebro-spinal axis.

A NEW METHOD FOR THE PREPARATION OF EXTRACTS WITHOUT HEAT.

By ALPHONSE HERRARA.

The fact that when water is partially frozen the dissolved matters remain in the mother liquor has been used commercially in a variety of ways for some years past. Impressed with the fact that even a moderate degree of heat seriously modifies the properties of most vegetable substances, the author proposes that the process just mentioned should be adopted for the preparation of extracts. The actual process is as follows:—The freshly expressed juice, or the cold water infusion, is placed in some such apparatus as that used for making ice cream, and surrounded with a mixture of crystallised chloride of calcium or chloride of sodium and pounded ice. The juice is allowed to remain till a large portion has congealed, the mass of ice is enclosed in a cloth and subjected to pressure, the presscake is broken and again pressed, to separate the mother liquor as completely as possible. The expressed mother liquor is mixed with the bulk, and the congelation is repeated two or three times, with the precaution that it must not be carried far enough to precipitate any of the more sparingly soluble principles. The mother liquor is then put into shallow dishes and exposed to the heat of the sun or of a drying room, the temperature of which does not exceed 30° C. (86° Fahr.) until the extract has attained the desired consistence.

Extract of conium, prepared with unpurified juice by the process mentioned, has preserved the characteristic odour of conia, and by dissolving it in water the author obtained a solution exactly representing the juice of the plant in appearance and properties, and giving, when heated, an abundant coagulation, proving that even albumen had remained unaltered. 1,750 grams of cow's milk, of 9° B., left, after three congelations, 750 grams of a liquid having a density of 14°, and by evaporation in the sun this left a dry extract of milk, which again formed that liquid on being dissolved in water. Extract of rhatany, prepared by the process of congelation, dissolves completely in water, with a red colour, and has a much more astringent taste, compared with an extract which was prepared with the utmost precaution by evaporation in a water bath. Similar comparisons were made with the extracts of catechu, aloes, and others, and in all cases a very notable difference was observed, which is explained by the final evaporation in the proposed process being conducted by the heat of the sun or of the drying closet, which is insufficient to effect a change or to volatilise the volatile principles in any appreciable degree.

It may be objected that the vegetable juices should be previously purified; but it should be remembered that coagulated albumen always encloses a considerable portion of the active principles, and that the heat necessary to effect the coagulation and the evaporation by means of a water bath is sufficient to change many principles; also, that the extracts thus prepared are sometimes inert or less active. The careful experiments made by Orfila and the clinical experience of others demonstrate that extracts prepared with unpurified juice are the stronger.

For the extracts prepared from juices by the method indicated, the author proposes the designation of *opopycnols*, derived from the two Greek words meaning *juice* and *to condense*.

* *Gazette Medicale*.

ON THE PRESERVATION OF PULVIS ERGOTÆ.

A useful article on this subject appears in the *Journal de Thérapeutique*. Divers plans have been proposed for the preservation of powdered ergot, which should retain its physiological properties unimpaired. Appert proposed the employment of balsam of tolu. M. Beries recommends that a little mercury should be kept at the bottom of the vessel containing it. Others have recommended that alcohol should be used in the same way. All these processes necessitate that the powder should be prepared when required, as it is much more alterable than the fungus itself.

Towards the end of 1874 the authors powdered 100 grammes of carefully selected ergot. 50 grammes were placed in a dry bottle. The other 50 grammes were mixed with 5 per cent. of

powdored benzoin, and set aside in a similar bottle. Both bottles were placed in the laboratory, with their mouths simply covered with a card. Fourteen months afterwards the benzoinated powder was unchanged, while the other was an odorous mass of living matter. The powder thus preserved was found thoroughly reliable by several eminent obstetricians.

THE DIALYSIS OF NICOTINE.

M. P. GUYOT, in the last number of the *Reperoire de Pharmacie*, details several experiments illustrating the power of nicotine to pass through membranes. He believes that dialysis will prove useful in the detection of this alkaloid; for exposure in a dialyzer for twenty-four hours is sufficient to extract every particle of nicotine from any mixture containing it.

THE TRADE OF GREAT BRITAIN IN DRUGS, CHEMICALS, &c.

BELOW will be found tables exhibiting in detail the full record of British trade for 1876, as far as it relates to subjects of which this journal takes cognisance. We have compiled these tables from official sources, and we have here shown by the side of the figures representing the imports of foreign and colonial produce those which indicate the proportion of the same reshipped. This is kept distinct from the exports of actual British produce.

I.—Foreign and Colonial Produce.

IMPORTS		ARTICLES AND COUNTRIES	RESHIPMENTS		IMPORTS		ARTICLES AND COUNTRIES	RESHIPMENTS	
Quantities	Values		Quantities	Values	Quantities	Values		Quantities	Values
Cwts.	£	ALKALI—	Cwts.	£	Cwts.	£	Bark—cont.	Cwts.	£
4,118	5,028	Germany .. ..	..	..	..	..	Peruvian :	1,084	10,394
1,011	1,234	Holland .. ..	..	..	..	..	Italy	2,568	24,739
3,933	5,179	Belgium .. ..	..	..	587	5,522	United States	334	3,356
6,800	1,870	Canary Islands ..	..	..	26,021	272,154	Other Countries ..	33,965	391,207
6,715	9,120	United States ..	..	..	Cwts.	£	Of Other Sorts :	Cwts.	£
68,336	89,215	British North America ..	1,721	1,986	8,920	5,105	From United States ..	..	..
..	..	France	9,164	8,370	2,418	2,571	Other Countries ..	..	..
2,072	1,969	Other Countries ..	10,885	10,356	11,938	7,676	To all Countries ..	3,887	6,449
93,045	113,615								
Cwts.	£	BRIMSTONE—	Cwts.	£	Cwts.	£	CANDLES—	Cwts.	£
22,850	11,602	Belgium .. ..	..	..	9,806	36,577	Stearine :	..	..
846,210	268,250	Italy .. ..	..	..	45,952	150,890	Russia .. ..	..	..
5,000	1,550	Turkey	8,735	2,968	24,294	86,267	Holland .. ..	..	..
..	..	United States ..	10,244	3,667	..	..	Belgium	9,105	36,525
2,439	677	Anstralia	20,939	7,286	..	..	Prussia	5,472	21,106
876,490	282,079	Other Countries ..	39,918	13,921	..	..	Turkey Proper ..	1,025	3,355
Cwts.	£	BARK—	Cwts.	£	..	..	Spanish W. I. Islands ..	879	3,119
17,302	4,905	For Tanners' or Dyers' Use :	..	..	..	..	Uruguay	5,714	19,005
24,505	8,801	Norway .. ..	..	..	..	..	British Poss. in S. Africa	13,610	46,855
155,885	57,444	Holland .. ..	..	..	..	..	British India ..	5,768	15,729
24,681	12,063	Belgium .. ..	..	..	1,462	5,258	Straits Settlements ..	28,543	98,490
35,556	15,118	Algeria .. ..	..	..	81,614	278,992	Australia	3,979	13,972
398,757	209,893	United States ..	..	..	Cwts.	£	Other Countries ..	74,085	258,165
..	..	Anstralia	12,071	6,626	1,059	3,599		Cwts.	£
15,683	7,054	Germany	8,248	4,937	2,146	6,828	Other Kinds :	..	..
672,319	315,278	Other Countries ..	20,319	11,563	1,887	6,735	From Germany ..	..	..
					98	324	Holland .. ..	..	..
		Extracts of Bark or other			5,190	17,476	Belgium .. ..	..	..
		Substances to be used in					Other Countries ..	..	..
		Tanning or Dyeing :					To all Countries ..	1,532	4,919
	£	Belgium .. ..	..	..			
..	25,660	France .. ..	..	..		£	CHEMICAL MANUFACTURES,		£
..	74,554	United States ..	..	..	..	273,548	&c., unenumerated—	..	12,562
..	12,918	British North America ..	..	..	..	126,710	Germany .. ..	..	7,414
..	1,763	Other Countries ..	..	..	..	43,493	Holland .. ..	..	8,545
..	117,202				..	286,500	Belgium .. ..	..	10,961
Cwts.	£	Peruvian :	Cwts.	£	..	247,623	France .. ..	..	1,086
1,161	11,454	Germany	2,105	19,967	..	70,750	Italy .. ..	..	22,985
1,194	11,039	France	14,316	162,034	..	11,126	United States ..	..	..
14,453	147,445	New Granada ..	..	..	..	16,021	Peru .. ..	..	8,237
3,504	35,035	Ecuador .. ..	..	..	..	..	British India ..	..	9,198
3,055	30,301	Peru .. ..	..	..	..	..	Russia .. ..	..	2,519
310	4,364	Chili .. ..	..	..	..	..	Spain .. ..	..	3,102
342	4,312	Brazil .. ..	..	..	..	..	Japan .. ..	..	11,176
1,415	22,682	British East Indies ..	12,733	159,594	..	40,855	Australia .. ..	..	3,027
..	..	Holland	825	11,131	..	1,116,626	Brit. North America ..	..	6,419
..	..	Belgium					Other Countries ..	..	102,231

IMPORTS		ARTICLES AND COUNTRIES	RESHIPMENTS		IMPORTS		ARTICLES AND COUNTRIES	RESHIPMENTS		
Quantities	Values		Quantities	Values	Quantities	Values		Quantities	Values	
Cwts.	£	COCHINEAL (Including Grn- nilla and Dust)— Canary Islands W. C. of Africa (For.) .. Mexico Central America W. C. of Africa (Brit.) .. Russia Sweden Germany Holland Belgium France United States British India Other Countries	Cwts.	£	Cwts.	£	DYE STUFFS—cont. Germany Other Countries	Cwts.	£	
22,344	248,743		43,677	62,906		12,773	15,528	
1,420	16,933			5,085	6,358	
1,340	17,092		264,062	602,150		76,953	120,181	
750	9,750		
1,239	14,943		
..	..		2,477	24,529	Tons	£		DYE WOODS— Logwood : United States Hayti and St. Domingo .. Mexico Brit. W. India Islands .. British Honduras Norway Holland Other Countries	Tons	£
..	..		318	3,589	1,852	13,009		
..	..		4,776	53,913	5,140	31,481		
..	..		1,213	13,195	1,926	17,321		
..	..		589	6,879	43,358	266,187		
..	..		1,203	11,644	11,184	82,116		
..	..	4,140	47,064	..	..	401	2,161	
..	..	1,273	14,142	..	..	907	5,995	
3,347	36,404	1,036	11,488	755	5,743	2,180	15,819			
30,440	343,885	17,025	186,443	64,215	415,557	3,548	24,975			
Tons	£	CORK—Unmanufactured : Portugal Spain Algeria Russia Sweden Norway Denmark Germany United States Other Countries	Tons	£	Tons	£	Unenumerated : W. C. of Africa, Foreign .. Philippine Islands Mexico Central America New Grenada Venezuela British East Indies British West Indies Russia Germany Holland France Spain United States Other Countries		Tons	£
6,267	172,666		3,557	24,935		
395	11,413		1,156	9,295		
351	7,045		6,116	52,878		
..	..		203	4,965	2,009	10,723		
..	..		107	5,971	1,641	9,179		
..	..		167	8,051	1,442	9,648		
..	..		114	5,626	2,490	17,413		
..	..		492	26,317	3,847	22,520		
..	..		56	2,454		542	4,763	
195	6,391		46	1,352		963	8,473	
7,208	197,515		1,185	54,736		480	3,535	
Lbs.	£	Manufactured : France Portugal Spain Sweden Germany United States British Possessions in South Africa British India Australia Other Countries	Lbs.	£	..	..	273	3,342
3,174,431	267,624		..	..	2,597	20,393	429	4,024
2,537,175	147,975		..	..	..	..	2,432	19,632
927,793	72,354		26,007	2,539	24,855	176,984	1,145	9,700		
..	..		37,788	2,985	..	..	6,264	52,469
..	..		35,876	1,994	..	£	..	..
..	..		14,202	1,079	..	27,856	..	..
..	..		29,074	2,418	..	7,211	..	..
..	..		250,460	16,612	..	..	..	..
21,804	1,586		26,088	2,487	..	35,067	..	..
6,661,203	489,539		419,495	30,114	..	..	..	..
Tons	£		CUTCH— British India Russia Germany Holland Belgium France Spain United States Other Countries	Tons	£	£	
4,694	114,486	..		..	..	..	..	4,240
..	..	424		10,948	..	..	..	10,970
..	..	611		14,707	..	..	..	16,457
..	..	237		6,156	..	..	..	31,697
..	..	219		5,444	..	..	..	..
..	..	713		17,245	..	..	..	..
..	..	96		2,411	..	..	..	..
..	..	335		8,403	..	..	..	..
111	2,434	229		5,784	..	..	..	..
4,805	116,920	2,804		71,098	..	£	..	..
..	£	DRUGS, Unenumerated— Germany Holland Belgium France Turkey China Japan United States Mexico Chili Brazil Mauritius British East Indies British West Indies Russia Sweden Denmark Italy Hong Kong Australia British North America .. Other Countries	£	..	£	..	£	
..	46,293		..	..	..	93,986	..	7,915
..	33,031		..	47,962	..	76,008	..	52,868		
..	10,278		..	23,724	..	14,824	..	6,040		
..	37,690		..	19,182	..	33,931	..	23,969		
..	20,176		..	67,674	..	29,666	..	..
..	44,598		..	..	..	17,535	..	3,285
..	30,776		..	..	..	10,087	..	..
..	42,559		..	..	..	23,449	..	7,486
..	20,582		..	4,764	..	4,886	..	..
..	34,690		..	53,604	..	78,395	..	..
..	20,133		..	..	..	63,476	..	..
..	13,126	..	..	..	..	..	6,716	
..	68,499	..	..	..	..	..	4,199	
..	23,724	..	..	..	28,409	..	7,092	
..	..	..	..	..	..	..	120,170	
..	..	..	13,334	..	..	..	..
..	..	..	8,097	..	Cwts.	£	Cwts.	£
..	..	..	4,616	..	19,969	19,969	..	..
..	..	..	7,621	..	355	1,252	..	..
..	..	..	11,663	..	12,909	35,457	..	..
..	..	..	12,676	..	3,808	4,518	..	..
..	..	..	5,812	..	..	..	..	..
..	..	..	24,677	..	..	..	..	..
..	77,088	..	..	..	..	..	..	..
..	523,193	..	305,405	..	1,476	3,608	..	..
Cwts.	£	DYE STUFFS, Unenumerated : Holland Belgium France Portugal Spain and Canary Islands Turkey United States Mexico New Granada British East Indies Russia	Cwts.	£	..	£	..	£		
17,260	192,463		..	5,672	7,308	25,884	64,704	..	52,112	
1,459	21,056		..	8,380	11,939	Tons	£	Tons	£	
20,696	63,555		..	32,561	50,404	1,094	24,533	279	6,683	
..	12,165		20,300	458,881	
..	22,888		401	10,941	
..	38,732		2,203	53,238	
..	69,527		401	10,717	
..	29,103		..	6,028	22,158	446	10,720	
..	28,613		365	10,311	
59,306	61,142		21,759	493,725	3,790	92,219	
..	5,854	6,436	

IMPORTS		ARTICLES AND COUNTRIES	RESHIPMENTS		IMPORTS	ARTICLES AND COUNTRIES	RESHIPMENTS	
Quantities	Values		Quantities	Values	Quantities	Values	Quantities	Values
Cwts.	£		Cwts.	£	Cwts.	£	Cwts.	£
6,502	21,100	GUM—	..	..	14,275	28,060	MADDER—	..
31,981	89,081	Arabic :	..	..	10,567	22,707	From Holland .. ..	..
4,893	8,099	Austrian Territories .. ..	..	..	728	1,306	France .. ..	..
1,762	4,020	Egypt .. ..	..	..	25,570	52,073	Other Countries .. ..	..
..	..	Morocco .. ..	..	..	Cwts.	£	To all Countries	1,632 1,759
..	..	British India .. ..	..	..	1,824	2,845	Root :	Cwts. £
..	..	Holland	2,457	6,597	3,663	9,029	From Holland .. ..	..
..	..	France	3,989	9,048	12,046	14,346	France .. ..	..
..	..	Austrian Territories	3,232	6,694	16,213	18,809	Italy .. ..	..
4,167	11,680	United States	9,403	21,649	78	64	Turkey .. ..	..
49,305	133,980	Other Countries	9,293	25,150	33,824	45,093	Other Countries .. ..	..
Cwts.	£		28,374	69,138	Cwts.	£	To all Countries	512 770
1,678	5,685	Kowrie :	Cwts.	£	8,198	94,627	Garancine :	Cwts. £
36,514	90,673	United States .. ..	..	..	7,174	47,291	From Holland .. ..	..
..	..	New Zealand .. ..	..	..	26	120	France .. ..	..
..	..	Germany	3,405	9,283	15,598	142,038	Other Countries .. ..	..
..	..	Holland	3,352	9,690	Cwts.	£	To all Countries	3,381 8,994
8	30	Other Countries	3,725	8,490	419	590	Munjeet :	Cwts. £
38,200	96,888		10,482	27,463	Gallons	£	From all Countries .. ..	..
Cwts.	£		Cwts.	£	16,402	2,364	NAPHTHA (Crude)—	Gallons £
92,576	507,240	Lac, Seed, Shell, Stick, and	..	..	48,673	4,640	From Germany .. ..	..
5,228	17,328	Dye :	..	..	2,328,586	97,629	Holland .. ..	..
..	..	B. Ind., Bengal & Burmah	3,371	15,204	4,740	427	United States .. ..	..
..	..	Straits Settlements	16,793	100,492	2,398,401	105,060	Other Countries .. ..	..
..	..	Russia	6,802	35,452	Cwts.	£	To all Countries	6,172 841
..	..	Germany	1,518	8,188	3,064,707	1,761,450	Purified—	Proof Gall £
..	..	Holland	8,771	45,313	193,562	109,637	Total (to France)	47 10
..	..	Belgium	945	5,179	43,277	22,660	NITRE, CUBIC :—	Cwts. £
..	..	France	4,526	22,686	..	..	Peru .. ..	..
1,051	5,449	Spain	42,726	232,514	Cwts.	£	Bolivia .. ..	..
98,855	530,017	Other Countries	Cwts.	£	3,064,707	1,761,450	Chili .. ..	..
Cwts.	£		7,979	29,030	193,562	109,637	Sweden	14,994 9,071
7,974	22,486	Unenumerated :	4,091	15,849	43,277	22,660	Spain and Canary Islands	14,354 9,265
2,993	10,898	Holland .. ..	..	..	..	..	Italy	39,869 23,067
4,782	37,337	France .. ..	..	..	..	..	Austrian Territories	14,650 9,166
5,097	10,108	Turkey .. ..	..	..	..	..	United States	92,637 56,458
8,168	29,042	Egypt .. ..	..	..	..	..	Other Countries	22,722 13,592
5,890	18,785	Morocco .. ..	..	..	3,301,546	1,893,767		199,230 120,619
3,764	16,730	Brit. West Africa .. ..	..	..	Tuns	£	OIL—	
14,997	40,903	Aden .. ..	..	..	961	37,031	Train or Blubber :	Tuns £
7,301	31,313	B. Ind., Bombay & Scinde	..	..	287	11,467	Norway .. ..	..
..	..	Straits Settlements .. ..	..	..	1,772	49,114	Germany	775 24,268
..	..	Russia	8,038	21,933	979	30,746	Spain .. ..	..
..	..	Germany	5,406	20,625	2,093	62,244	United States .. ..	..
..	..	United States	7,600	28,033	254	10,098	Whale Fisheries (N.) ..	..
13,111	47,393	Other Countries	12,101	32,114	6,689	231,759	Channel Islands .. ..	..
74,077	264,995		45,215	147,584	431	12,893	B. North America ..	..
Cwts.	£		Cwts.	£	13,466	44,526	France	344 12,933
506	11,768	INDIGO—	..	..	Tuns	£	Other Countries	444 15,176
1,157	35,749	Germany	17,307	477,873	2,674	243,305	Spermaceti or Head Matter :	Tuns £
484	9,467	Holland	14,370	372,866	86	8,151	From United States ..	..
115	1,830	France	7,389	185,023	397	33,660	Chili .. ..	..
393	8,965	India, French Possessions	..	..	61	5,243	Anstralia .. ..	..
8,502	170,449	Mexico .. ..	..	..	3,218	290,359	Other Countries .. ..	..
1,808	48,109	Central America .. ..	..	..	Cwts.	£	To all Countries	98 8,031
160	4,138	New Granada .. ..	..	..	10,636	15,870	Animal :	Cwts. £
20,170	419,632	B. Ind., Bombay & Scinde	..	..	13,694	31,005	From Holland .. ..	..
53,905	1,384,875	Madras .. ..	..	..	2,584	5,640	United States .. ..	..
510	12,500	Bengal & Brnsh. .. ..	..	..	26,914	12,515	Other Countries .. ..	..
..	..	Ceylon	2,010	60,143	Cwts.	£	To all Countries	1,539 3,647
..	..	Russia	3,703	95,085	2,368	4,433	Castor :	
..	..	Belgium	1,057	25,101	75,782	125,501	British India : Madras	..
..	..	Portugal and Azores ..	2,792	70,882	1,527	3,904	Bengal .. ..	..
..	..	Spain and Canary Islands	3,546	90,104	79,677	133,838	Other Countries .. ..	..
..	..	Italy	859	21,076	Cwts.	£		
..	..	Turkey Proper	2,320	42,290	15,901	29,242	Cocoa-nut :	Cwts. £
..	..	United States	1,961	49,226	47,472	92,840	Manritius .. ..	..
1,012	23,086	Other Countries	57,314	1,459,669	126,313	236,856	British India (Madras)	..
88,722	2,130,568		..	..	4,118	7,424	Ceylon .. ..	..
..	£		..	£	..	..	Anstralia .. ..	..
..	6,423	INK—	..	1,015	..	..	Russia	44,447 82,702
Cwts.	£	All Countries	Cwts.	£	..	..	Germany	69,013 112,865
528	13,985	ISINOLASS :	..	..	..	..	Holland	25,997 48,595
153	5,052	From Russia .. ..	..	..	..	..	Belgium	7,709 14,357
1,064	16,270	Germany .. ..	..	..	..	..	France	14,395 27,261
..	..	Brazil .. ..	..	..	..	..
1,084	19,783	Brit. Ind. : Bom-	..	..	..	..
1,024	18,585	bay and Scinde ..	..	..	..	..
670	10,954	Straits Settlements	..	..	..	..
4,423	84,629	Other Countries	663	8,019	..	..
Cwts.	£		Cwts.	£	..	..
4,044	8,183	LICUORICE—	..	..	..	..
11,442	44,413	France .. ..	..	..	..	..
4,251	9,521	Italy .. ..	..	..	..	..
..	..	Turkey .. ..	..	..	..	..
..	..	Australia	1,520	5,076	..	..
2,184	6,601	Other Countries	2,595	5,782	..	..
21,921	68,718		4,115	10,858	..	..

IMPORTS		ARTICLES AND COUNTRIES	RESHIPMENTS		IMPORTS		ARTICLES AND COUNTRIES	RESHIPMENTS	
Quantities	Values		Quantities	Values	Quantities	Values		Quantities	Values
Cwts.	£	RICE—cont.	Cwts.	£	Qrs.	£	SEEDS—cont.	Qrs.	£
..	..	Not in the Husk :	..	..	41,891	69,201	Rape :	..	..
..	..	Italy	327,541	172,520	6,906	18,110	Russia : Southern Ports ..	17,852	47,164
..	..	Austrian Territories ..	133,502	73,898	131,706	359,725	Germany .. .. .	..	..
..	..	Greece	41,094	22,649	12,190	33,044	B. Ind. : Bombay & Scinde	..	..
..	..	Turkey Proper	118,912	64,048	257,536	659,740	Madras .. .. .	..	..
..	..	Wallachia and Moldavia	43,047	22,401	..	..	Bengal & Burmah	6,166	17,065
..	..	Egypt	42,362	22,629	..	..	Norway	107,347	285,853
..	..	West Africa (Foreign) ..	44,201	23,755	..	..	Holland	91,780	247,558
..	..	United States	168,609	97,104	..	..	Belgium	7,910	17,902
..	..	Spanish W. India Islands	921,947	499,236	9,744	25,181	France	663	2,005
..	..	Peru	88,218	48,843	459,973	1,165,001	Other Countries	231,718	617,547
..	..	Brazil	177,186	97,655	Qrs.	£	Unenumerated — commonly	Qrs.	£
..	..	Argentine Republic ..	38,623	21,615	4,788	8,460	used for expressing Oil	..	..
..	..	Brit. North America ..	62,889	33,251	9,696	17,549	therefrom :	..	..
..	..	Brit. W. India Islands ..	127,023	67,292	2,330	5,754	Russia	6,225	14,490
80,459	44,222	Other Countries.. ..	273,349	149,321	3,000	6,300	Turkey .. .. .	..	..
6,469,181	2,929,138		3,434,575	1,844,471	6,896	15,527	India : French Possessions	..	..
Cwts.	£	ROBIN—	Cwts.	£	21,150	43,339	B. Ind. : Bombay & Scinde	..	..
13,851	6,738	From Franco .. .. .	..	..	54,896	132,898	Madras .. .. .	..	..
966,109	306,234	United States .. .. .	..	..	..	..	Bengal & Burmah	1,100	2,850
67	35	Other Countries .. ..	..	..	..	..	Sweden	2,081	5,428
980,027	313,007	To all Countries	9,213	3,501	..	..	Norway	16,932	41,483
Cwts.	£	SAFFLOWER—	Cwts.	£	..	..	Holland	1,014	2,427
3,526	13,709	British India : Bengal ..	1,147	5,036	3,984	9,060	Belgium	45,254	111,111
..	..	France	1,949	7,556	106,740	238,887	France	180	371
225	500	Other Countries .. ..	..	..	Cwts.	£	Other Countries	72,786	177,660
3,751	14,209		3,096	12,592	19,835	11,306	Unenumerated—other Sorts :	Cwts.	£
Cwts.	£	SAGO and SAGO FLOUR—	Cwts.	£	26,131	35,940	Russia .. .. .	..	..
5,735	3,993	Borneo .. .. .	..	..	77,734	152,188	Germany .. .. .	..	..
331,658	233,285	Straits Settlements ..	..	..	45,537	62,282	Holland .. .. .	..	..
..	..	Norway	4,034	3,455	11,871	13,333	France	6,579	7,854
..	..	Denmark	5,407	4,213	10,231	5,112	Spain .. .. .	..	..
..	..	Germany	13,008	10,667	680,930	220,248	Italy .. .. .	..	..
837	625	Other Countries	11,154	9,391	37,898	9,774	Turkey .. .. .	..	..
338,230	237,903		33,603	27,726	..	..	Wallachia and Moldavia	18,035	26,816
Cwts.	£	SALTPETRE (NITRATE OF	Cwts.	£	..	..	United States	4,729	7,573
14,378	13,975	POTASH)—	..	..	37,885	32,591	Anstralia	9,284	10,983
3,305	3,450	Germany .. .. .	..	..	947,552	542,774	Other Countries	38,627	53,226
1,702	1,234	Holland .. .. .	..	..	Cwts.	£	SHUMACH—	Tons	£
7,208	6,500	B. Ind. : Bombay & Scinde	..	..	11,851	202,240	Italy .. .. .	..	..
232,883	211,697	Madras .. .. .	..	..	449	6,022	Austrian Territories ..	..	..
..	..	Beng'l & Burmah	..	..	..	..	Russia	180	3,303
..	..	France	5,004	4,796	..	..	Belgium	144	2,759
..	..	Spain	17,253	16,324	..	..	United States	151	2,594
..	..	United States	10,973	10,461	497	6,991	Other Countries	249	4,602
..	..	French W. India Islands	2,200	2,200	12,797	215,253		724	13,258
1,103	1,197	Other Countries	5,080	4,976	Lbs.	£	SPICES—	Lbs.	£
260,579	238,053		40,510	38,757	1,298,121	119,700	Cinnamon :	..	..
Lbs.	£	SAUCES or CONDIMENTS, un-	Lbs.	£	..	..	Ceylon	205,489	19,565
13,142	2,164	enumerated—	..	..	..	..	Germany	79,927	5,482
216,620	6,896	From Russia .. .. .	..	..	..	..	Holland	50,416	3,183
1,188,868	10,973	France .. .. .	..	..	..	..	Belgium	152,771	13,823
220,104	6,947	China .. .. .	..	..	..	..	France	511,326	51,418
13,890	1,004	British East Indies ..	..	..	..	..	Spain	98,953	6,566
89,611	3,562	British Guiana .. ..	..	..	..	..	Italy	47,680	5,150
1,742,235	31,546	Other Countries .. ..	..	..	40,939	3,348	Other Countries	79,541	7,424
Cwts.	£	SEEDS—	Cwts.	£	1,339,060	123,048	Ginger (Raw) :	Cwts.	£
219,844	1,754,519	Cotton :	..	..	..	..	British West Africa ..	..	..
2,915	22,427	From Turkey .. .. .	..	..	..	..	B. Ind., Bombay & Scinde	..	..
849	6,285	Egypt .. .. .	..	..	..	..	Madras .. .. .	..	..
1,120	6,724	United States .. .. .	..	..	..	..	Bengal & Burmah	..	..
1,967	13,443	New Granada .. .. .	..	..	..	..	Ceylon .. .. .	..	..
230,116	1,825,116	Brazil .. .. .	..	..	..	..	British W. India Islands	6,579	13,559
..	..	Other Countries .. ..	..	..	..	..	Germany	5,479	10,377
..	..	To all Countries	234	1,892	..	..	United States	2,992	9,114
Qrs.	£	Flax and Linseed :	Qrs.	£	..	..	Australia	7,709	17,070
582,286	1,440,786	Russia : Northern Ports	..	..	1,413	2,881	Other Countries	22,759	50,120
92,945	235,050	Southern Ports	1,660	4,043	62,164	169,252	Pepper :	Lbs.	£
52,519	122,078	Germany	67,449	163,647	..	..	Cochin China .. .. .	..	..
16,874	64,412	Holland .. .. .	..	..	..	..	B. Ind., Bombay & Scinde	..	..
6,048	16,515	Italy .. .. .	..	..	..	..	Madras .. .. .	..	..
6,508	18,835	Turkey .. .. .	..	..	..	..	Bengal & Burmah	..	..
3,100	8,463	Egypt .. .. .	..	..	..	..	Straits Settlements ..	..	..
396,034	986,420	B. Ind.: Bombay & Scinde	..	..	..	..	Russia	2,026,265	37,730
1,120	2,455	Madras .. .. .	..	..	..	..	Sweden	223,431	4,462
835,109	2,073,499	Beng'l & Burmah	..	..	..	..	Germany	5,674,962	106,411
..	..	Norway	1,856	4,494	..	..	Holland	2,182,633	41,989
..	..	Denmark	1,362	3,329	..	..	Belgium	695,327	12,365
..	..	Belgium	12,084	29,071	..	..	France	648,954	11,593
4,141	8,664	Other Countries	1,578	3,153	..	..	
1,996,684	4,977,177		85,989	207,737	..	..	

IMPORTS		ARTICLES AND COUNTRIES	RESHIPMENTS		IMPORTS	ARTICLES AND COUNTRIES	RESHIPMENTS	
Quantities	Values		Quantities	Values	Quantities	Values	Quantities	Values
Lbs.	£	SPICES— <i>cont.</i>	Lbs.	£	Gallons	£	Gallons	£
..	..	Pepper :	..	..	5	5	..	..
..	..	Spain and Canary Islands	058,700	11,582	..	..	..	..
..	..	Italy	2,065,169	36,203	..	..	..	..
..	..	Turkey Proper	279,410	6,285	Prf. Galls.	£	..	..
..	..	Brazil	393,681	7,354	47	10	..	..
..	..	British North America ..	467,676	7,918	..	..	..	..
392,734	8,513	Other Countries	1,935,305	37,795	..	..	..	..
25,957,070	462,084	..	17,251,512	321,687	Gallons	£	Gallons	£
Lbs.	£	Unenumerated :	Lbs.	£	1,125	532	..	..
181,742	6,181	Germany	2,703,344	69,050	..	..	25	5
575,178	55,905	Holland	941,596	23,876	..	..	..	..
47,040	2,400	Egypt .. ..	..	..	..	..	..	..
189,521	8,814	East Coast of Africa : Na-	..	..	Gallons	£	Gallons	£
1,780,165	40,517	tive States .. ..	..	..	915	911	..	..
167,925	11,940	China .. ..	..	..	23,040	34,463	..	..
76,400	4,778	United States .. ..	..	..	3,253	4,968	..	..
474,018	24,747	Brit. Poss. in S. Africa	..	..	13,821	27,546	..	..
812,448	37,906	Aden .. ..	..	..	917	1,400	..	..
288,405	36,909	British India .. ..	..	..	..	..	..	..
2,969,582	44,813	Straits Settlements ..	..	..	..	..	..	..
..	..	Brit. W. India Islands ..	..	..	..	..	2,181	3,424
..	..	Russia	519,742	12,153	..	..	..	..
..	..	Sweden	355,254	7,896	..	..	..	..
..	..	Denmark	365,421	8,818	..	..	..	..
..	..	Belgium	168,300	4,647	411	658	..	..
..	..	France	472,684	19,194	..	..	..	..
..	..	Portugal, Azores, and	..	..	42,357	69,946	..	..
..	..	Madeira	87,977	3,314	..	..	18,722	30,842
..	..	Spain and Canary Islands	300,940	13,619	Prf. Gals.	£	..	..
..	..	Italy	425,171	12,791	119,065	6,005	Prf. Gals.	£
..	..	Austrian Territories ..	218,900	3,690	1,768,594	139,672	..	..
..	..	Turkey Proper	200,841	5,318	..	..	..	..
..	..	United States	93,074	5,405	..	..	..	..
..	..	Australia	243,594	8,973	..	..	..	..
20,904	1,512	Brit. North America ..	195,184	14,067	..	..	..	..
7,533,328	276,422	Other Countries	541,156	20,751	8,560	1,705	..	..
Cwts.	£	TURPENTINE (Rough)—	Cwts.	£	2,324,405	184,231	..	..
9,176	7,708	All Countries .. ..	..	..	..	..	..	..
..	..	Germany	5,462	6,180	..	..	..	..
..	..	Holland	4,804	5,212	..	..	..	..
..	..	Other Countries	6,315	7,808	..	..	..	..
9,176	7,708	..	16,581	19,200	..	..	..	..
Cwts.	£	WAX—	Cwts.	£	..	..	..	..
6,558	33,715	Portugal .. ..	..	..	..	..	..	..
1,386	9,227	Morocco .. ..	..	..	..	..	..	..
3,079	6,686	China .. ..	..	..	..	..	..	..
12,325	24,650	Japan .. ..	..	..	..	..	..	..
3,529	23,916	United States .. ..	..	..	..	..	..	..
1,145	8,444	British West Africa ..	..	..	..	..	..	..
591	4,138	Australia .. ..	..	..	..	..	..	..
1,290	9,645	British W. I. Islands ..	..	..	..	..	..	..
..	..	Russia	7,417	37,405	..	..	..	..
..	..	Germany	3,319	10,003	..	..	..	..
..	..	Holland	1,183	5,454	..	..	..	..
..	..	France	3,506	8,970	..	..	..	..
..	..	Java	976	4,793	..	..	..	..
3,993	26,256	Other Countries	4,189	12,263	..	..	..	..
33,896	146,677	..	20,590	78,888	..	..	..	..

II.—Foreign and Colonial Produce Subject to Duty.

IMPORTS		ARTICLES AND COUNTRIES	RESHIPMENTS	
Quantities	Values		Quantities	Values
Lbs.	£	CHLORAL HYDRATE (Duty, 1/3 per lb.)—	Lbs.	£
14,668	2,612	From Germany .. ..	..	..
6,390	2,211	Holland .. ..	..	..
21,058	4,823	To all Countries	2,268	552
Lbs.	£	CHLOROFORM (Duty, 3/- per lb.)—	Lbs.	£
4,188	621	All Countries	4,173	688
Gallons	£	COLLODION (Duty, 24/- per gallon)—	Gallons	£
105	116	All Countries	91	110
Gallons	£	ETHER, SULPHURIC (Duty, 25/- per gallon)—	Gallons	£
2,649	1,490	All Countries	2,204	1,646

III.—Exports of the Produce and Manufacture of the United Kingdom.

ARTICLES AND COUNTRIES		Quantities	Values
ALKALI—		Cwts.	£
To Russia .. ..	..	315,639	159,564
Sweden and Norway ..	..	138,166	48,047
Denmark .. ..	..	135,831	32,449
Germany .. ..	..	892,995	303,583
Holland .. ..	..	891,501	123,809
Belgium .. ..	..	364,833	156,313
France .. ..	..	191,748	80,512
Spain and Canaries ..	..	151,676	88,150

ARTICLES AND COUNTRIES		Quantities	Values	ARTICLES AND COUNTRIES		Quantities	Values
ALKALI—cont.		Cwts.	£	MEDICINES—cont.			£
Italy .. .. .	.. .. .	117,107	46,670	British India : Bombay and Scinde ..	.. .. .	..	21,791
Austrian Territories .. .. .	.. .. .	52,654	18,480	" Madras .. .. .	.. .. .	..	6,299
United States : Atlantic .. .. .	.. .. .	2,196,639	949,145	" Bengal and Burmah .. .. .	.. .. .	..	57,530
" Pacific .. .. .	.. .. .	43,265	15,036	Ceylon .. .. .	.. .. .	..	10,016
Brazil .. .. .	.. .. .	45,410	23,225	Australia .. .. .	.. .. .	..	151,256
Anstralia .. .. .	.. .. .	102,615	40,411	British North America .. .. .	.. .. .	..	39,514
British North America .. .. .	.. .. .	129,966	55,346	British W. I. Islands and Brit. Guiana ..	.. .. .	..	36,936
Other Countries .. .. .	.. .. .	177,152	79,126	Other Countries .. .. .	.. .. .	..	61,463
Total .. .. .	.. .. .	5,456,191	2,222,866	Total .. .. .	.. .. .	..	643,292
BLEACHING MATERIALS—		Cwts.	£	PERFUMERY, of all Sorts—			£
To Russia .. .. .	.. .. .	43,429	14,575	To Germany .. .. .	.. .. .	..	6,430
Germany .. .. .	.. .. .	164,788	55,207	France .. .. .	.. .. .	..	7,186
Holland .. .. .	.. .. .	45,322	16,776	United States : Atlantic .. .. .	.. .. .	..	4,819
Belgium .. .. .	.. .. .	95,053	32,883	" Pacific .. .. .	.. .. .	..	349
France .. .. .	.. .. .	85,385	26,900	Brazil .. .. .	.. .. .	..	4,781
Austrian Territories .. .. .	.. .. .	10,778	3,361	British India : Bombay and Scinde ..	.. .. .	..	4,366
United States : Atlantic .. .. .	.. .. .	420,876	153,479	" Madras .. .. .	.. .. .	..	1,737
" Pacific .. .. .	.. .. .	1,417	646	" Bengal and Burmah .. .. .	.. .. .	..	10,208
Canada .. .. .	.. .. .	15,112	5,919	Australia .. .. .	.. .. .	..	14,381
Other Countries .. .. .	.. .. .	57,661	20,871	British W. I. Islands and Brit. Guiana ..	.. .. .	..	4,716
Total .. .. .	.. .. .	939,821	330,617	Other Countries .. .. .	.. .. .	..	40,534
CANDLES, of all Sorts—		Lbs.	£	PICKLES, VINEGAR, AND SAUCES—			£
To France .. .. .	.. .. .	153,357	4,327	To Germany .. .. .	.. .. .	..	9,762
Central America .. .. .	.. .. .	131,127	4,221	Belgium .. .. .	.. .. .	..	7,226
United States of Colombia .. .. .	.. .. .	142,323	4,752	France .. .. .	.. .. .	..	9,029
Channel Islands .. .. .	.. .. .	393,902	9,725	China .. .. .	.. .. .	..	6,114
British Possessions in South Africa ..	.. .. .	712,100	23,501	United States : Atlantic .. .. .	.. .. .	..	71,416
British India : Bombay and Scinde ..	.. .. .	212,790	7,268	" Pacific .. .. .	.. .. .	..	8,554
" Madras .. .. .	.. .. .	93,820	2,835	Brazil .. .. .	.. .. .	..	5,467
" Bengal and Burmah .. .. .	.. .. .	113,732	3,691	British Possessions in South Africa ..	.. .. .	..	38,685
Ceylon .. .. .	.. .. .	96,996	3,090	British India : Bombay and Scinde ..	.. .. .	..	23,893
Australia .. .. .	.. .. .	916,004	29,785	" Madras .. .. .	.. .. .	..	11,830
British North America .. .. .	.. .. .	231,586	7,321	" Bengal and Burmah .. .. .	.. .. .	..	36,818
British W. I. Islands and Brit. Guiana ..	.. .. .	893,836	26,991	Ceylon .. .. .	.. .. .	..	9,776
Other Countries .. .. .	.. .. .	637,321	24,693	Hong Kong .. .. .	.. .. .	..	4,693
Total .. .. .	.. .. .	4,728,888	152,200	Australia .. .. .	.. .. .	..	215,220
CHEMICAL PRODUCTS or Preparations, not specially enumerated—			£	British North America .. .. .	.. .. .	..	42,925
To Russia .. .. .	.. .. .	..	95,078	British W. I. Islands and Brit. Guiana ..	.. .. .	..	10,594
Sweden and Norway .. .. .	.. .. .	..	59,944	Other Countries .. .. .	.. .. .	..	86,608
Germany .. .. .	.. .. .	..	339,563	Total .. .. .	.. .. .	..	598,610
Holland .. .. .	.. .. .	..	314,022	SALTPETRE, British Prepared—		Cwts.	£
Belgium .. .. .	.. .. .	..	168,176	To Portugal, Azores, and Madeira ..	.. .. .	9,055	10,300
France .. .. .	.. .. .	..	224,596	Spain and Canaries .. .. .	.. .. .	13,104	14,471
Spain and Canaries .. .. .	.. .. .	..	40,318	Italy .. .. .	.. .. .	8,091	8,874
Italy .. .. .	.. .. .	..	61,799	Greece .. .. .	.. .. .	1,817	2,167
Japan .. .. .	.. .. .	..	13,064	United States : Atlantic .. .. .	.. .. .	4,266	5,156
United States : Atlantic .. .. .	.. .. .	..	271,880	" Pacific .. .. .	.. .. .	1,193	1,367
" Pacific .. .. .	.. .. .	..	4,634	Brazil .. .. .	.. .. .	6,149	7,258
Brazil .. .. .	.. .. .	..	9,531	Gibraltar .. .. .	.. .. .	2,488	2,826
Argentine Republic .. .. .	.. .. .	..	6,661	Other Countries .. .. .	.. .. .	8,068	9,379
British India : Bombay and Scinde ..	.. .. .	..	27,355	Total .. .. .	.. .. .	54,231	61,798
" Madras .. .. .	.. .. .	..	2,937	SOAP—		Cwts.	£
" Bengal and Burmah .. .. .	.. .. .	..	20,050	To Spain and Canaries .. .. .	.. .. .	9,114	10,887
Hong Kong .. .. .	.. .. .	..	26,527	Italy .. .. .	.. .. .	9,405	11,933
Anstralia .. .. .	.. .. .	..	86,933	Java .. .. .	.. .. .	16,119	16,243
British North America .. .. .	.. .. .	..	25,874	China .. .. .	.. .. .	21,411	19,869
British W. I. Islands and Brit. Guiana ..	.. .. .	..	13,410	Foreign West Indies .. .. .	.. .. .	6,196	6,913
Other Countries .. .. .	.. .. .	..	119,440	Gibraltar .. .. .	.. .. .	19,911	21,799
Total .. .. .	.. .. .	..	1,931,792	British Possessions in South Africa ..	.. .. .	32,389	37,950
LUCIFER AND VESTA MATCHES—			£	British India : Bombay and Scinde ..	.. .. .	7,089	11,263
To Turkey Proper .. .. .	.. .. .	..	2,437	" Bengal and Burmah .. .. .	.. .. .	7,323	10,920
China .. .. .	.. .. .	..	6,202	Hong Kong .. .. .	.. .. .	5,452	6,221
Chill .. .. .	.. .. .	..	4,967	Australia .. .. .	.. .. .	4,265	9,804
Brazil .. .. .	.. .. .	..	4,860	British North America .. .. .	.. .. .	6,722	9,553
British India : Bombay and Scinde ..	.. .. .	..	6,088	British W. I. Islands and Brit. Guiana ..	.. .. .	59,178	66,309
" Madras .. .. .	.. .. .	..	1,618	Other Countries .. .. .	.. .. .	50,279	74,539
" Bengal and Burmah .. .. .	.. .. .	..	17,216	Total .. .. .	.. .. .	254,853	313,203
Channel Islands .. .. .	.. .. .	..	2,302	TURPENTINE, OIL, or SPIRIT of, and TURPEN-		Gallons	£
Hong Kong .. .. .	.. .. .	..	3,275	TINE SUBSTITUTE—			
Anstralia .. .. .	.. .. .	..	124,639	To all Countries .. .. .	.. .. .	52,732	6,136
Other Countries .. .. .	.. .. .	..	16,348				
Total .. .. .	.. .. .	..	189,952				
MEDICINES—			£	IV.—Total Value of the Imports and Exports of the United Kingdom.			
To Germany .. .. .	.. .. .	..	11,069	IMPORTS.			£
Holland .. .. .	.. .. .	..	12,361	Articles Free of Duty .. .. .	.. .. .	..	337,268,938
Belgium .. .. .	.. .. .	..	14,763	Articles Subject to Duty .. .. .	.. .. .	..	37,885,765
France .. .. .	.. .. .	..	11,543	Total .. .. .	.. .. .	..	375,154,703
Portugal, Azores, and Madeira ..	.. .. .	..	11,686	EXPORTS.			£
Spain and Canaries .. .. .	.. .. .	..	9,099	Produce and Manufactures of the United Kingdom ..	.. .. .	..	200,639,204
Italy .. .. .	.. .. .	..	9,414	Foreign and Colonial Produce and Manufactures ..	.. .. .	..	56,137,398
Japan .. .. .	.. .. .	..	13,830	Total .. .. .	.. .. .	..	256,776,602
United States : Atlantic .. .. .	.. .. .	..	50,249				
" Pacific .. .. .	.. .. .	..	2,703				
Central America .. .. .	.. .. .	..	5,809				
Pern .. .. .	.. .. .	..	8,615				
Chill .. .. .	.. .. .	..	12,719				
Brazil .. .. .	.. .. .	..	35,317				
Argentine Republic .. .. .	.. .. .	..	9,871				
Channel Islands .. .. .	.. .. .	..	12,329				
British Possessions in South Africa ..	.. .. .	..	27,210				



For particulars of Advertisements, Subscriptions, &c., please refer to the first page of Literary matter. An Index to the Advertisements contained in this issue will be found in the front portion of the Journal.

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SEE PAGE 35.

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RECOMMENDED BY THE MEDICAL PROFESSION.

For particulars, see page 11.

FOR PARTICULARS OF
THE
ANALYSED TEA ASSOCIATION,

And Opinions of the "Lancet," &c.,

See Page 45.

EDITORIAL NOTES.

THE FUTURE OF THE PHARMACEUTICAL CONFERENCE.

We are told on a certain authority that "murmurings of discontent have been floating in the pharmaceutical atmosphere" at the large amount of "honest scientific work" presented annually to the Pharmaceutical Conference, and the editor of a

journal, the title of which at any rate has some connection with pharmacy, seeks to reconcile the murmurers and the "honest scientific workers."

Murmuring, we may remark, however, at the outset is not exactly the word by which to define the comments on many of the papers read at Plymouth, which were current conversation among those who listened to them. There was not a member present who did not perceive that the Conference was being made use of by brilliant analysts and enterprising manufacturers to advertise their names and their products in a cheap and efficient manner. This feature of the Conference was a subject not of murmuring, but of jocularity. It has its serious side, however—that is to say, if the Conference is to be regarded as having a serious purpose in its existence. Pharmacists will not continue very long to interest themselves in playing the part of beating the bushes for others to catch the birds. The pharmacists who attend the Conference are of a class not likely to wish for any depreciation of the high scientific character which it has attained. It ought always to be ahead of the general body of the trade. It is perhaps desirable that subjects of trade and political interest should be avoided. But common-sense points out where the line is to be drawn.

First let it be remembered that he who hires the horse has the best right to ride in front. Pharmacists may at least claim the first consideration in respect to the selection of papers. Next, we may remark, that the author of a paper whose simple object is the promotion of knowledge will, if he have the choice, take it to the society where it is most likely to be thoroughly checked and sifted. The application of these principles to the papers read at Plymouth would be a much more reasonable method of procedure than to search in each paper separately for some excuse for hanging it on to a pharmaceutical conference. The special pleading, for instance, which is required to connect pharmacy with ivy leaves is almost on a level with that which associated Monmouth with Macedon.

At the Plymouth meeting, in introducing an abstract of a paper on the chemical constituents of oil of sago, Professor Attfield said, "It was excessively chemical, and though no one would suspect him of discouraging original research after any kind of truth, yet he certainly did not see exactly what pharmaceutical results would accrue from such researches as these. Especially now that the Royal and Chemical Societies had funds at their disposal, he thought such work as this might be left to them. The Pharmaceutical Conference had the honour of having initiated such investigations." This, it appears, was the first official recognition of the "murmurings of discontent." However much that small speech may be sneered at, its logic seems to us unanswerable, and we hope the officers of the Conference will continue to guard jealously their frontiers without respect of persons. The temptation to gain glory by competing with the Chemical Society is no doubt strong, but if this be yielded to, the conference as a pharmaceutical association will assuredly "die of its own loveliness."

THE HOMŒOPATHIC JUBILEE.

This year, it appears, is the fiftieth anniversary of the advent of the first physician who practised homœopathically in this country. This great benefactor, Dr. Quin, we are happy to add, still continues in London a very fashionable and lucrative practice. It is not unnatural that the circle which regards the homœopathic doctrine as the most perfect condensation of absolute medical truth should congratulate each other at this time. The Homœopathic Congress met at Liverpool on September 13 under the presidency of Dr. A. C. Pope, of London, one of the most uncompromising advocates of "the truth," and he took the opportunity of dilating again on his favourite theme, exhibiting

in detail the severe persecution which he and his comrades had had to undergo from the rest of the medical bodies, and declaring his unswerving resolution to stand by the banner of homœopathy to the last. We regret for the sake of homœopaths the continual repetition of these complaints of persecution. There is no such thing existing. The homœopaths are free to believe, practice, and promulgate their system to what extent they please, subject only to the laws which govern the rest of the medical profession. That they are excluded from certain medical societies is only the most reasonable and perfectly legitimate exercise of a right which assuredly belongs to any and every association. In other matters this right seems perfectly natural. The Liberation Society would hardly think of asking for permission to send lecturers to the Church Congress, and the Carlton Club might be excused for declining to aid the cause of the Radicals. Why should the orthodox medical societies open their doors to those who are practically schismatics and opponents?

The most interesting feature of the Liverpool proceedings was the discussion respecting the title of the new London School of Homœopathy. Several prominent gentlemen wished to abandon that title for one in which there should be no reference to homœopathy. It was urged by Dr. Moore, of Liverpool, and others, that the name was an overt challenge; that it would injure their prospects of success, and so forth. Dr. Dudgeon wished to call it the School of Medicine on the ground that there was no other where medicine was taught in its integrity. Dr. Bayes, Dr. Hughes, Dr. Dyce Brown, the President, and others, however, deprecated any even apparent abandonment of their colours, and further argued that the school was merely supplementary to other schools, and designed only to teach the homœopathic application of medical science. It appeared, during the discussion, that after a large expenditure not more than 14 or 15 students had yet entered, and that of these less than half paid small fees, while of this small number the attendance had dwindled down to five or six, and that on one occasion the lecture theatre was occupied only by the orator and an audience of one. Ultimately it was resolved, by 45 votes to 14, to retain the present name of the school.

OPENING ADDRESSES AT THE MEDICAL SCHOOLS.

In accordance with historic custom the Metropolitan Medical Schools have again addressed, through selected mouthpieces, words of welcome and encouragement to the young students just entering their portals. We must, however, except some from this statement. Three of the most important schools have this year opened their doors with silence, and the fresh men find themselves plunged in the midst of their work without a word of introduction.

We think that this is to be regretted, and that the reasons urged in support of this course are not of much weight. It is said that in the majority of cases the opening addresses are poor and colourless performances, that it does not enhance the respect felt for the teacher either by himself or his pupils to take him away from the subjects in which he is at his ease, and to set him the difficult task of speaking to young men on hackneyed subjects, in the treatment of which it is difficult to avoid trivialities and platitudes. We do not think that the majority of opening addresses are of such little worth; but admitting it to be so, there are some brilliant and valuable exceptions to the dead level of mediocrity, so that if it were only for their sake we would willingly retain the custom.

The inaugural address at St. Thomas's Hospital was delivered by Mr. Wagstaffe, B.A., M.B., F.R.C.S., and was an eloquent and inspiring harangue. After noticing the value of bodily health in the struggle for life, the speaker went on to consider

the main secrets of success. The chief one was a clear appreciation of the end to be gained. Students should aim at gaining wisdom, not at becoming walking dictionaries. To attain this goal the one motive of their lives should be a love of truth which should make them cling to it under all disguises and abide by it whatever the consequences. This desire for truth should show itself in an honesty which will take nothing on trust. If the truth or falsehood of a statement be provable, an honest man will not rest content until he has proved it; authorities will not awe him. He must touch, handle, and feel all things that can be so treated. This honesty cannot be separated from the caution which restrains a man from too speedily expressing his opinions, nor from the perseverance which tires not in the toilsome search for true knowledge.

At the London Hospital a numerously-attended *conversazione* was substituted for the inaugural address.

At the Middlesex Hospital Mr. Arthur Hensman spoke of some parts of the history of the hospital, and then enforced the value and necessity of special training for all the various senses, and dwelt on the numerous improved aids offered them by the ophthalmoscope and similar instruments of modern invention.

Dr. J. Williams, at the University College, spoke on gynaecology and the advances which had been made and were still to be made in this branch of medical science.

At St. Mary's Hospital Mr. Herbert Page, after commenting on the wretched system of education formerly in vogue and hardly yet extinct, spoke of the good effect of an honest study of medical science in enlarging the mind. He also remarked on the influence which the medical profession as a body should exercise on the community at large.

Mrs. Garrett-Anderson, M.D., delivered the opening address at the London School of Medicine for Women. She strongly deprecated the idea that women would be able to understand any diseases through occult or mysterious sympathy, or by any other means than hard work. She reminded her hearers that henceforth they were not working for the cause of women alone, but were members of a great and noble profession, and must not shirk the responsibilities that position involved.

At the Royal Veterinary College the Professor of Histology and Morbid Anatomy, Mr. Axe, delivered the opening address; he spoke of the rapid progress of veterinary science and of the vast improvement still to be made therein.

ANALYTICAL DISCOVERIES.

In a pamphlet issued by the Compressed Tea Company occurs one of the most extraordinary analyses that it has been our lot to come across for some time. Be it understood we have no wish to enter into the question of the merits of compressed tea: we simply wish to call attention to the way in which analyses are cooked by testimonial-mongers. The analysis in question is from the laboratory of the renowned Dr. Hassall, the Corypheus of the trade, and issues from "The Analytical Sanitary Institution." Two professed analyses are given, one of loose tea, and the other of the same tea after it has undergone the process of compression.

	SAMPLE 1. Not compressed	SAMPLE 2. The same tea compressed
	Per cent.	Per cent.
Water	7.376 ..	7.910 ..
Extractive matter	35.624 ..	39.730 ..
Theine	2.200 ..	2.250 ..
Mineral matter	6.490 ..	6.433 ..
Containing sand	0.603 ..	0.583 ..

It will be seen from these wonderful figures that compression exercises a most marvellous influence on the tea. First of all the percentage of water is increased, and the extractive matter and theine leap up 4.106 and 0.05 per cent. respectively. No doubt, had the squeezing been a little more violent and continuous, the amount of extractive and theine would have been

doubled. The most singular part of the matter is that the salts and sand contained in the tea are diminished by the very same process that increases its more valuable constituents. Truly we have not yet reached the limit of the wonders which science has to teach us.

THE EFFECTS OF POISON ON VARIOUS ANIMALS.

This subject is brought prominently before our readers by the letters on Canine Toxicology now appearing in our correspondence columns. Many curious facts concerning it may be gathered from different works, and statements which are sometimes astounding and contradictory are frequently made. Many recorded cases of apparent immunity from the effects of poison may be explained by a little consideration of the circumstances. Professor Hackel has been making experiments which prove that the rabbit may eat the belladonna with impunity, and that the rodents and marsupials generally are not affected by plants of the order Solanaceæ. These experiments have been so conducted as to leave little room for doubting the accuracy of the results obtained. But a French physician—Dr. Batandier—having observed that mice frequently ate the hemlock fruits in pharmacies, has been feeding two of them on that alone. He kept two mice on hemlock seed for eight days, at the end of which time one of them seemed very unwell, and during the night was eaten by its companion. Some days after the survivor was liberated. The two rodents, during their eight days captivity, consumed of the fruits more than enough to kill a man. M. Batandier therefore assumes that mice are not poisoned by hemlock seeds. But the facts will certainly bear another interpretation. It is well known that when hemlock fruits are allowed to ripen they lose all medicinal effect. When carelessly dried or long kept they also become useless. Therefore, as we have no check experiments in this case, we are more justified in concluding that the doctor's hemlock fruits were ripe, old, or carelessly dried, than in assuming that conium has no effect on mice. In the article on the names of Hyoscyamus, which appears this month, statements as to the effect of that plant on hogs are quoted from authorities which are at least worthy of respect, but which contradict one another. The contradiction may probably be explained by the well-known variability in the activity of the plant—a variability which depends on the variety, state of growth, and age, as well as upon the period of the year at which it is gathered.

A case is mentioned by one of our correspondents in which a pointer bolted a quantity of oatmeal containing a large addition of arsenic. The retardation of the effects of the poison in this case was probably due to the presence of the oatmeal, the albuminous portion of which would form a comparatively insoluble compound with the arsenic.

When strychnine is given well buried in meat, a long time frequently elapses before its effects are manifested. Before it can act, the surrounding meat must be digested, and even then the strychnine will be liberated in a full stomach, a condition known to be unfavourable to the rapid action of medicines.

The surest way to recover a person poisoned by prussic acid is to immerse him in cold water, and the case mentioned by our correspondent of the rapid revival of a dog apparently poisoned with prussic acid on its being dropped into the river, is only one of several which have come to our notice. Not only does a plunge revive the moribund brute, but it comes round with a firm intention never to get into the same difficulties again.

Several cases of the immunity of animals as regards certain poisons do not admit of such ready explanation. Monkshood is said to kill goats, but to have no effect on horses. The goat browses greedily on the long-leaved waterhemlock (*Eranthe phellandrium*), which is speedily fatal to cows. Parsley is

dently to small birds and peacocks, while swine eat it safely. Pepper is mortal to swine and flies, but wholesome to poultry. Alees is said to be poisonous to wolves and dogs. We know persons who are made drowsy and unwell by the amount of morphia contained in an ordinary cough lozenge, while we have heard of a woman who took the equivalent of 21 ounces of laudanum, in the form of opium and laudanum, at a single dose. We cannot vouch for the accuracy of this latter statement, but the cases have probably something in common which in our ignorance we call idiosyncrasy. As regards the practical subject of poisoning dogs and other animals, there are one or two precautions which largely help success. The first is, always make the dog fast 24 hours before giving the poison. Never be sparing with the prussic acid. Our own plan has been to get some one acquainted with the dog to hold the head up and mouth open, take the stopper out of a new bottle of Scheele's Acid, and putting the neck of the bottle into the corner of the jaw, to pour in as much acid as can be got down before the animal begins to struggle. We have never had to administer it twice, nor have we ever seen a case in which this was necessary. Death by prussic acid is undoubtedly painful, and the death shrieks of murdered dogs still ring in our ears. A more preferable way to put animals out of the world is to chloroform them and then drown them in warm water (cold would bring them round). A dog can be easily chloroformed if he is first muzzled. If the dog be a small one the chloroform may be dropped on a sponge, the sponge put in the toe of a boot, and the dog's nose forced in. Cats are more difficult to deal with, but the boot dodge is generally successful. To poison a cat with prussic acid is indeed a feat, and can hardly be accomplished without causing the animal a great deal of pain, while its struggles under the influence of the poison are often astounding.

THE TROUBLES OF A FRENCH PHARMACIEN.

WE are afraid M. Duval, pharmacien, at Ferté-Macé, must be a Gambettist of a rather ardent complexion. Without that theory it is rather hard to find extenuating circumstances for the local tribunal which recently dealt out to him something more than justice. The servant of a regular customer then suffering from typhoid fever brought to M. Duval a prescription ordering one pill composed of two centigrammes (.308 grains) of extract of opium. The customer begged for two pills, lest his sufferings should not be eased by one. This request M. Duval acceded to; but gave strict injunctions that the second should not be taken within three hours after the first. Both were taken, and three days after the patient died. The doctor's certificate assigned as the cause of death typhoid fever complicated by cerebral troubles. The pharmacien was prosecuted and condemned for supplying a pharmaceutical preparation without a doctor's prescription. Worse than all, his kind friends are spreading the report in his district that he has been condemned for poisoning the patient!

THE IMPORTANCE OF A GOOD FILTER.—We read in a Jamaica paper that the Government Medical Department of that island has ordered every parochial hospital to be supplied immediately with Silicated Carboa Filters before the rainy season sets in and the rivers become swollen. This seems to be the result of a very striking observation made by the medical superintendent of the Kingston Lunatic Asylum. In that institution no less than twenty deaths had occurred within twelve months from dysentery. The mischief was traced to the water, and Silicated Carbon Filters were employed. There had not been a single case of dysentery since the filters had been introduced. This extraordinary evidence of the value of these filters has occasioned quite a run on them in Jamaica, and the public, as well as the Government authorities, have established them as one of the most necessary appliances of a household or institution.

Pharmaceutical Notes.

NOTES ON LINIMENTS.

OF the sixteen formulæ for liniments in the Pharmacopœia only a few partake of the nature of true liniments, that is, liniments of an oily or saponaceous nature, intended to be accompanied with more or less of friction in their application. The few, however, of this class which there are, are sufficiently unsatisfactory to make us deprecate their multiplication, if not to make us wish for their reduction. A whole volume, we believe, from first to last, has been written, for example, on the new official liniment, iodide of potassium and soap, and it is questionable if the proper formula has yet been discovered. Another new official liniment—viz., liniment of turpentine with acetic acid, is a very bad formula for a very good liniment, and only recently has it been shown ("Year-Book of Pharmacy, 1875") how the same liniment may be prepared in an elegant manner, and still embrace the same characteristics. Unfortunately, whilst this new formula differs in no other important respect from the official, it differs so widely from it in appearance that there is no probability of its ever becoming a substitute until itself made official in some future edition of the Pharmacopœia. Meanwhile it may be noted that a liniment may be prepared, corresponding in every respect to the Pharmacopœia preparation, by the simple substitution of lard for the camphorated oil—the camphor entering into this last liniment being dissolved in the turpentine of the acetic acid liniment instead. A liniment thus prepared closely resembles the official in every respect, with the exception that instead of separating a minute or two after mixing, it forms a beautiful emulsion, which does not separate for several hours. Under these circumstances, as well as for other reasons into which we need not enter, the suggested substitution has, we think, much to commend it.

The mention here of the liniment of camphor permits us throwing out a suggestion regarding it, which, though not original, may be new to many. The Pharmacopœia instruction is simply to dissolve the camphor in the oil, whilst the old Pharmacopœia formula, which in other respects is the same, is to rub them in a mortar until the camphor is dissolved. Any one who has tried to dissolve the camphor in this manner, or who has added the camphor to the oil and dissolved by agitation, or who follows the more objectionable plan still of dissolving by the aid of heat, must be aware, under any of the conditions mentioned, how tedious the process is, and how much attention it requires. Let the camphor instead be simply suspended (tied in a muslin bag) in the oil and left alone, and in a very short time—much shorter than by any other method, especially when the liniment is being made in quantity—the process will complete itself. The rationale of the method is so simple as to require no explanation, and it applies to many other substances besides liniment of camphor.

Liniment of camphor is frequently substituted, and, we think, with advantage, for olive oil in making liniment of ammonia. In either case, however (that is whether liniment of camphor or olive oil be employed), the proportion of ammonia should be as one to three. If the proportion is greater than this, as in the old Pharmacopœia, in which it was one to two, an incomplete mixture is the result, ammonia again separating after a short interval. Provided the solution of ammonia be of proper strength, viz., .959, the more that is added to the oil up to the point of separation (as near as possible, one to three), the more fluid the liniment will be, and, on the other hand, the less ammonia that is added the thicker the liniment, and without separation. Nothing, however, is more fertile of annoyance, both in this liniment and in liniment of lime water, than deficiency of alkali. Liniment of lime water, for example, should, after standing for a time, be very nearly a complete mixture, only a very small quantity of the oil again separating. As met with, however, the oil is generally to be found in all degrees of separation, owing to deficiency in strength of the lime water. It is partly owing to this cause, also, that so many inquiries are made from time to time regarding a mixture popularly known as glycerine and lime cream. We presume what is meant by this is a mixture of lime water and almond oil, and the difficulty generally experienced seems to be to obtain a mixture which will not separate. So far as this preparation is concerned, it should not be forgotten that almond oil and olive oil are neither chemically nor physically identical, so that, whilst with the latter equal parts of lime water and oil give very nearly a complete mixture,

it does not necessarily follow that the same result will take place with the former. As a matter of fact, it takes considerably over an equal volume of lime water to effect a complete mixture with almond oil, but so much depends upon the strength of the lime water, as well as upon the length of time that the mixture requires to stand, that no correct estimation of the amount required can probably be given. Under these circumstances, it may be advisable, where a complete mixture is required, to cream with the addition of a little wax or spermaceti in the usual manner. The addition of a very small quantity of borax, it may also be noted, is in many ways an advantage, both as regards the production of a more complete mixture and a whiter cream.

SPICED NUTS.

THE production of safe and pleasant, yet efficacious, medicines for children is not an unimportant part of the duty frequently devolving on the ordinary pharmacist, and although, truth to tell, most have a lurking weakness for this department, still, unfortunately, it has been chiefly fostered and developed under a somewhat objectionable system of empiricism. It is no part of our present plan to inquire into the cause of this, even though we believe the explanation is not far to seek: rather let us endeavour to raise a representative preparation, which in its day has had somewhat of an eventful history, out of the class referred to by giving in full the formula and mode of preparation. Apart from its history, it is sufficiently valuable, we think, to excuse its insertion in full:—

Spiced Purgative or Worm Nuts.

Take of—	Ozs.
Calomel	2
Powdered jalap	4
„ ginger	1
„ cinnamon	$\frac{1}{2}$
Bicarb. soda	$\frac{1}{2}$
Treacle	12
Flour	16

Mix, make into a dough, and roll out on a slab until of a sufficient thinness that a piece the circumference of a sixpence weighs exactly 35 grains. Next, cut into rounds of this size, arrange and expose on trays near the fire until dry and crisp, and preserve in tins. The cutter is simply a cone of zinc or tin, the apex of which must be somewhat sharp, and made to correspond to the circumference of the sixpence afore-mentioned. The cone itself may be made of any size, but should at least be of dimensions sufficiently large to hold two or three dozen nuts without stoppage of cutting. The mass having been thoroughly cut up with the stamp, as thus explained, the remainder is again re-kneaded, and rolled out ready for re-stamping, and so on, the process being repeated so long as any of the mass remains uncut. Once the requisite thickness of mass has been obtained, all future trouble is avoided by getting two slips of wood of the same thickness and preserving them after as guides for the roller. Nuts thus prepared are both pleasant and efficacious, each nut containing of active ingredients two grains of calomel, four grains of jalap, and one grain of ginger. It is probably, however, not so much the formula itself that is here so valuable as the simple adaptations which place the manufacture of the nuts beyond the necessity of extraneous assistance. The formula may be changed to suit individual inclination or taste, but nothing, we venture to assert, could, so far as manipulation is concerned, more thoroughly eclipse both baker and confectioner.

PARAFFIN PAPER.

IF paraffin be dissolved with the aid of a very gentle heat in ordinary commercial benzole, in the proportion of one part of the former to four of the latter, and the solution brushed over tissue paper, a cheap, but very good substitute for waxed paper is quickly extemporised. After brushing the tissue paper it is put aside or hung to dry, which it does in a very short time, the paper presenting at this stage more or less of a white mottled appearance. Next expose it to a gentle heat sufficient to remelt the thin coating of paraffin adhering to the surface of the paper, when it will set into a fine uniform and permanent glaze, in which condition it is ready for any of the purposes for which such papers are generally required. Paper thus prepared will be found particularly useful for tracing purposes, the pencil or pen running smoothly over it, with no tendency to

blur or blot as in some tracing papers frequently met with. Of more importance still, however, to the ordinary chemist, it will be found invaluable for preserving powders and other substances susceptible to change on exposure to the air. It affords, for example, a cheap wrapper for chloride of lime, keeping it good for an indefinite period, and we may add only those who know the nuisance it is to have to rush away and push one's arm up to the elbow in a jar or poke with a long stick into a Winchester bottle for every pennyworth of this substance that is sold can appreciate the comfort of having it cleanly put up and always ready to hand at a moment's notice. Turpentine, it may be noted, will do as well as benzole for dissolving the paraffin, but it takes a much longer time to dry, the former taking as many hours as the latter will take minutes. When required in large quantity floating the paper on the surface of the paraffin solution may be substituted for the brushing process, as being more expeditious. In this case the process very closely resembles the sensitising of the paper in photography, and the same utensils may therefore be employed.

GUTTA-PERCHA CAPSULES.

ANOTHER very useful purpose to which benzole may be put as a solvent is in dissolving the little scraps and odd pieces of gutta-percha tissue, which in the ordinary course of business will accumulate, and which are too frequently thrown aside as waste and useless. If these be dissolved by the aid of a gentle heat, so as to form a moderately thick fluid, and then vermilion or other pigment added, both for the purpose of colouring the solution and giving it greater body, a preparation is obtained capable of producing a uniform and very superior film. The purposes to which such a solution may be applied are various, but one in particular at once suggests itself, namely, as a capping for bottles. In thus employing it the solution may either be brushed over the top, or, better still, the top of the bottle may be dipped into it, as bottles are dipped into sealing wax, and then put aside to set. The gutta-percha capsule thus obtained is impervious to air, water, oil, spirit, and indeed most liquids, tears cleanly off when required, and has the further great advantages of cheapness, simplicity, and neatness. No better or neater finish could, we think, be given to liquid patent and proprietary medicines than a gutta-percha capsule prepared in this manner.

ON A NEW ADULTERATION OF SCAMMONY.

By A. P. Luff, F.C.S., Demonstrator of Chemistry in St. Mary's Hospital Medical School.

A SAMPLE of scammony was recently sent to me for analysis which had been sold as virgin scammony. On exhausting with ether in the usual way it yielded only 67 per cent. of resin; the adulterant (if any) was then searched for. A weighed quantity of the scammony was heated in a tared crucible at a temperature sufficiently high to drive off all organic matter. When cold the residue was weighed, and indicated 16 per cent. of ash or inorganic matter. Now since good scammony should only yield about 3 per cent. of ash, evidently the scammony was adulterated with 13 per cent. of inorganic matter, provided that this inorganic adulteration had not lost weight on ignition, in which case the percentage amount of adulteration would of course be higher.

A qualitative analysis of this ash was first made. It evolved carbonic acid gas abundantly when dissolved in hydrochloric acid. The analysis showed the presence of a small amount of phosphates (which are always present in scammony ash), and a large amount of lime and magnesia. Another portion of the scammony was then taken and exhausted with ether on a filter, to remove the resin; the residue was then exhausted with water to remove the gum; the carbonic acid gas, the lime, and the magnesia were then qualitatively determined in this insoluble portion (which had a sandy or gritty appearance), and which consisted entirely of inorganic matter. The amounts of carbonic acid gas, lime, and magnesia so obtained showed that the adulteration consisted of carbonate of lime and carbonate of magnesia. It was no doubt *dolomite* added to the extent of 13 per cent.

This adulteration can readily be detected in a sample of scammony, either by estimating the amount of resin or the amount of ash; if present, a deficiency of the former and an increase of the latter will be obtained.

BULLRICH'S SALT is a mixture of sulphuret and bicarbonate of sodium, according to Von Niemyer, but bicarbonate of sodium is what is generally sold under the name by the Berlin druggists.

SYRUPUS GINERTI, an American preparation, is made as follows:—Two grains red iodide of mercury and 100 grains iodide of potassium are dissolved in 2 fluid drachms of water, and simple syrup added to make 6 fluid ounces.



ILLEGAL SALE OF POISONS.

UNREGISTERED PERSONS TRADING AS CHEMISTS UNDER ASSUMED NAMES.

At the Birmingham Police Court, on Tuesday the 9th inst., before G. Goodrick, Esq., and H. Manton, Esq., Anson Edwin Martin, trading as a chemist and druggist at 136 Broad Street, Birmingham, was summoned by William Frederic Haydon, 22 Burlington Chambers, New Street, Birmingham, secretary to the Chemists' and Druggists' Trade Association, for "that on the 27th day of September, 1877, at the said borough, he unlawfully sold to the said William Frederic Haydon certain poison, to wit, oxalic acid, in a certain packet, the cover of which packet did not set forth the name of the seller of the same, contrary to the statute in such case made and provided." Mr. Henry Glaisyer (solicitor to the Chemists' and Druggists' Trade Association), instructed by Mr. Haydon, prosecuted, and Dr. Sebastian Evans appeared for the defendant.

Mr. GLAISYER said he was rather surprised to see that his friend Dr. Evans appeared for the defence, because he held in his hand what he took to be a confession that the defendant had infringed the Act. However, as the defendant appeared by his counsel, he must go into the matter. The information was laid by Mr. Haydon, secretary to the Chemists' and Druggists' Trade Association of Great Britain, and the summons was issued under the 17th Section of the Pharmacy Act, 1868, which provided: "It shall be unlawful to sell any poison, either by wholesale or retail, unless the box, bottle, vessel, wrapper, or cover in which such poison is contained be distinctly labelled with the name of the article and the word poison, and with the name and address of the seller of the poison; and for the purpose of this section the person on whose behalf any sale is made by any apprentice or servant shall be deemed to be the seller."

The facts of the case were very simple. On September 27, that was last month, Mr. Haydon went to defendant's shop, 136 Broad Street, and purchased some oxalic acid from him personally. The package containing the oxalic acid was labelled "Oxalic Acid. Poison. Morris & Co., Chemists, 87, Islington, Birmingham." Subsequently the defendant called upon Mr. Haydon, and they both came to Mr. Glaisyer, and the defendant at that interview wrote the following letter:—

136 Broad Street, Birmingham, October 4, 1877.

DEAR SIR,—With regard to the proceedings which have been commenced against me under the 17th section of the Pharmacy Act, 1868, I have to say that I admit that I have been for some time past trading as a chemist and druggist at 136 Broad Street, under the name of Morris & Co. Under this name I sold the poison (oxalic acid) to Mr. W. F. Haydon, the secretary of the Chemists' and Druggists' Association. In future I will trade under my own name, and will abstain from selling poisons until I am duly qualified to do so.

To Henry Glaisyer, Esq., solicitor,
Waterloo Street.

Yours truly,
ANSON EDWIN MARTIN.

Dr. EVANS said they admitted the facts of the case.

Mr. GLAISYER said then he did not know what defence his friend could set up, because he thought the provisions of this section were clear.

Dr. EVANS said he thought that the Bench would have seen what the defence of this was. They were charged in this summons that they did unlawfully sell a certain poison, namely, oxalic acid, on the cover of which they did not set forth the name of the seller. They did set forth the name of the seller. Stamped on that packet was the name of Morris & Co., with their address in Islington. The only point in the case was—this firm of Morris & Co. had passed through several hands. Morris & Co. established a considerable reputation as chemists and druggists a good many years ago, and when, he believed, Mr. Morris died he sold the business to Mr. Proctor. Mr. Proctor, being well aware of the value of the name of Morris, still retained the name of Morris, and traded under that name, and sold poisons under that name. When his client purchased the business from Mr. Proctor, he still retained the name of Morris & Co., and he traded as Morris & Co. He contended that the provisions of the Act were fulfilled in that label, that, in fact, the name of the seller was upon that packet. The provisions of the Act were for the purpose of identifying persons from whom poisons had been obtained, and the name of Morris & Co. being upon the packet, any person who wished to identify the seller could do so by going to the shop in Islington and asking who were Morris & Co. Morris & Co. were Mr. Martin. There was no other Morris & Co. Mr. Martin was perfectly entitled to use the name of Morris & Co. as well as Mr. George Dixon was to use that of "Rabone Bros." in trading as a merchant in the town. It had been over and over again decided that it was lawful for any persons to trade under the name of what firm they pleased, whether there was a person of that name in the firm or not. And he said both the letter and spirit of the Act had been fully carried out by giving such an address as that. It was impossible that any person could be mistaken by such an address as that. They knew he kept a shop and was trading under that name. He said further than that, if Mr. Martin had put his own name upon that packet he would not have been so readily identified as by having the name of Morris & Co. upon it. The object of the Act had been more fully carried out by having that address upon the packet than it would have been had the name of the individual who actually sold it appeared. With regard to Mr. Martin writing that letter in a lawyer's office he was taken there for the purpose of writing it. It was the most natural thing in the world for a man to do. He took it any person not knowing that it was legal for him to trade under another name would naturally write that letter. He was told by a legal gentleman that he had infringed the Act by trading under another name. But he had been doing nothing of the kind. It was under that incorrect impression that he wrote that letter. He should not carry the case any further, as, in his opinion, neither the spirit nor the letter of the Act had been infringed.

Mr. GLAISYER said that as his friend had rather opened up the question of the intention and scope of the Act he should like to offer a few remarks, and with the permission of the Bench he would direct their attention to Section 15.

Dr. EVANS said they were not summoned under that section.

Mr. GOODRICK requested Mr. Glaisyer to proceed.

Mr. GLAISYER said he would only refer to Section 15 to show what the object of the Act really was; with regard to the identification of the seller, Dr. Evans' argument admitted of some explanation. He could not see that a man could be better identified by assuming a name that was not his own. Then, again, they would see in a moment by assuming the name of Morris & Co., and trading under that title, he was using the assumed name as a shield for the sale of poisons; the name and address of other persons was assumed by unregistered men for the sole purpose of enabling them to evade Section 15 of the Act, as a subterfuge. He was perfectly aware it was lawful for a person to trade under an assumed name except as a chemist and druggist. Dr. Evans had carefully avoided the nature of that Act, and it was under that Act alone that a person could not conduct his trade under an assumed name. He said a person could not so trade in poisons, but it was for the Bench to decide the question.

Mr. MANTON said they thought the Act of Parliament was clear in compelling the person who sold poison to put his name on the label. With regard to a mercantile house, they could trade under an assumed name: there were many instances of that; but they thought the Act of Parliament before them made it very clear that a person who sells poisons should put his name on the label. They would therefore fine the defendant ten shillings and costs.

JOHN STUART CARELESS, trading as a chemist and druggist at 44 Horse Fair, Birmingham, was summoned for a similar offence.

Mr. Potts appeared on his behalf, and the prosecution was conducted by Mr. Henry Glaisher, instructed by Mr. Haydon, the plaintiff in this case.

Mr. Potts said: Having heard the last case he was prepared on behalf of his client to plead guilty, because he believed it was quite clear in the Act of Parliament that the seller of poison should put his name on the packet. He mentioned, however, that the defendant kept in his shop a qualified registered chemist.

Mr. GLAISHER said the defendant himself was not a registered chemist and druggist, and was consequently not permitted by the Act to deal in poisons, the fact of a qualified assistant being employed in the business had nothing whatever to do with the matter. The facts of this case were very similar to those of the case preceding it; the defendant was illegally trading as a chemist and druggist at 44 Horse Fair, Birmingham, under the assumed name of Josiah Topps, a gentleman who had been dead some six years. He handed to the Bench a confession similar to the letter read in the last case signed by the defendant.

A fine of ten shillings and costs was imposed.

ANOTHER PROSECUTION UNDER SIMILAR CIRCUMSTANCES.

At the Walsall Petty Sessions, on Wednesday, September 26, Major Newman in the chair, James Tyrer, 64 Upper Rushall Street, Walsall, Staffordshire, was summoned for "that on September 19, 1877, at the said borough, he unlawfully sold to William Frederic Haydon, certain poison, to wit oxalic acid, in a certain packet, the cover of which packet did not set forth the name of the seller of the same, contrary to the statute in such case made and provided."

Mr. Henry Glaisher (solicitor to the Chemists' and Druggists' Trade Association) appeared in support of the summons, and Mr. Williams (from the office of Messrs. Duiguan, Lewis & Lewis, solicitors, Walsall) defended.

The case created great interest in the town, many chemists and druggists being present during the hearing of the charge.

Mr. GLAISHER, in opening the case, said he appeared to prosecute, the information being laid by Mr. William Frederic Haydon (secretary to the Chemists' and Druggists' Trade Association of Great Britain), under the instructions of the officers of that society. The summons was issued under Section 17 of 31 and 32 Vict., c. 21, which enacts that "It shall be unlawful to sell any poison, either by wholesale or by retail, unless the box, bottle, vessel, wrapper, or cover in which such poison is contained be distinctly labelled with the name and address of the seller of the poison. The section further stated that "any person selling poison otherwise than herein provided shall, upon a summary conviction before the Justices of the Peace in England or the Sheriff in Scotland, be liable to a penalty not exceeding five pounds for the first offence, and to a penalty not exceeding ten pounds for the second or any subsequent offence, and for the purposes of this section the person on whose behalf any sale is made by any apprentice or servant shall be deemed to be the seller." Mr. Haydon went to Walsall on the 19th inst., visited the shop 64 Upper Rushall Street, and purchased from the defendant one pennyworth of oxalic acid. The label placed upon the packet stated "Edwin Constable, Chemist and Druggist," was the seller. He should, however, be able to prove that James Tyrer was the seller within the meaning of the Act. He should put into the witness-box Mr. F. Keep, the landlord of the premises, from whom he understood defendant had taken a lease. He should prove that Mr. Tyrer purchased the fixtures from the previous tenant, also that the Poor Rates were assessed to the defendant, and the gas supplied to the premises was paid for by him. He need not, he said, point out the necessity of the requirements for the sale of poisons being adhered to, but he would point out that the defendant, who was not qualified, had been carrying on the business of a chemist and druggist under an assumed name. In conclusion, Mr. Glaisher stated that the prosecution having been instituted upon public grounds, the secretary was instructed to ask for no part of the penalty.

WILLIAM FREDERIC HAYDON, examined by Mr. GLAISHER: What is your name?—William Frederic Haydon.

Where do you reside?—At Birmingham.

What is your profession?—I am a pharmaceutical chemist.

What appointment do you hold?—The secretaryship of the Chemists' and Druggists' Trade Association of Great Britain.

Did you come to Walsall on the 19th inst., and what then took place?—I came to Walsall on the 19th inst., and went to No. 64 Upper Rushall Street, where I purchased from the defendant one pennyworth of oxalic acid.

Who attended to you?—I was served by the defendant.

Was the poison wrapped in paper?—The oxalic acid was wrapped in this packet. (Packet produced, labelled "Oxalic Acid. Poison. Edwin Constable, Chemist and Druggist, 64 Upper Rushall Street, Walsall.")

Since the purchase of this poison, have you tested it?—I have.

What is the result of your analysis?—I find it to be a good sample of oxalic acid.

Is the defendant qualified to sell poisons enumerated in the schedule of the Pharmacy Act?—He is not.

How do you prove this?—His name does not appear on the last published register of chemists and druggists, nor has he passed any examination since this register (book produced) was issued qualifying him to trade as a chemist and druggist.

The name of James Tyrer does not appear on the register you have produced?—It does not.

You laid the information in this case?—I did in my official capacity as secretary of the Chemists' and Druggists' Trade Association.

And you are instructed not to apply for any portion of the penalty?—I shall not do so.

Cross-examined by Mr. WILLIAMS: You went yourself to 64 Upper Rushall Street?—I did.

Is there any name over the shop door or window?—There is a name over the door.

What is it?—Constable.

Is it Edwin Constable, Chemist and Druggist?—No; simply Constable.

Did you see any placards or notices inside the shop with the name Constable?—I did not.

Nor bill-heads?—No.

You noticed the labels on the bottles, I suppose?—Not particularly.

You had a glass tray with bottles under your nose, I presume?—I do not recollect either a glass tray or bottles under my nose.

Having gone in the character of an informer, you did not look round and notice these things?—I did not.

And yet you went to find out what you could against this person?—I went to purchase oxalic acid.

With a view of issuing this summons?—Yes.

I suppose you did not have any bill for the oxalic acid?—I did not.

Look at the head of that, please (bill-head produced bearing the name "E. Constable, Chemist and Druggist, Walsall"); you did not see any of these bill-heads, did you?—No; I imagine the defendant would not place bill-heads on the counter.

Yes, but they might have been hanging about. You did not see any?—No.

Have you opened the packet of poison?—Yes.

You opened it and took some out?—I did, for the purpose of testing it.

How did you test it?—By means of chemical tests.

Will you tell me the kind of tests you employed?—I dissolved a portion of the acid in pure water, and filtered the solution. I dipped a strip of litmus paper into the filtrate, which turned of a red colour, proving the presence of an acid. I found no trace of any of the metals in the solution. A portion of the solution treated with solution of chloride of barium threw down a white precipitate of oxalate of barium. Another portion of the solution treated with a solution of nitrate of silver threw down a white precipitate of oxalate of silver. A third portion of the solution treated with a solution of chloride of calcium deposited a white precipitate of oxalate of calcium, insoluble in acetic acid, soluble in hydrochloric acid. I mixed a little of the dry substance with black oxide of manganese, free from carbonates, sulphuric acid and water, when carbonic acid gas was evolved proved by passing the same into lime water, when a dense white precipitate of carbonate of lime was thrown down.

From the results of these tests you considered it was a good sample of oxalic acid?—The results of the tests I have enumerated proved the substance to be oxalic acid.

Yes; but how did you know it was a good sample?—By heating a portion of the dry acid to 350 degrees Fahrenheit's

thermometer, when nearly the whole of it disappeared; had the whole of it been dissipated it would have passed the British Pharmacopœia test for pure oxalic acid.

You are not a public analyst?—I am not.

You have not submitted this to an analyst?—No.

Do you know whose name is over the shop?—Yes.

Do you know he is a chemist?—His name does not appear on the printed register of chemists and druggists; but I find, on reference to the report of the proceedings of the Pharmaceutical Council, on May 2 last, a certain Edwin Constable, 223 Green Lane, Small Heath, Birmingham, was at the meeting of that council ordered to be restored to the register of chemists and druggists.

Do you know that as a chemist he is properly authorised to sell poisons?—Yes.

You have no doubt about it?—No; I have no doubt of it.

You have given a receipt for his annual subscription to your association?—I am aware that his name appears on our list of members.

Have you received from Mr. Constable his subscription for the present year?—I have received from Mr. Elliott, chemist, residing in Walsall, the sum of five shillings paid to him by the defendant in the name of Edwin Constable. I may perhaps be allowed to explain—

This is the receipt, is it not? (receipt produced)—Yes.

Re-examined by Mr. GLAISYER:

You wish to offer some explanation as to the receipt, will you please tell the Bench what it is?—I will do so. Our membership subscription is five shillings per annum, due in advance on July 1 in each year. The subscriptions are remitted to my office by the members themselves, or in many instances, where we have several members in a town, a friendly member will kindly undertake to collect the whole of the subscriptions in the town in which he resides and forward the amount to me in one sum, thereby saving me a considerable amount of labour in forwarding to each member a direct application for his subscription. In this way Mr. George Elliott, chemist and druggist of this town, collected the subscriptions of members residing here, and on August 7 last he forwarded me a remittance to cover the subscriptions of eleven members, amongst the names of the new members being that of Edwin Constable. I have since ascertained that he is not in business in Walsall, but that the defendant is trading here in his name. Residing at Birmingham I had no means of ascertaining that Edwin Constable was not in business at Walsall without making direct inquiries, for which, at the time his subscription was paid through Mr. Elliott to me, I saw no cause.

Does the name of Edwin Constable appear as a chemist and druggist residing at Walsall on any official register?—It does not.

Re-examined by Mr. Williams: You say it was resolved at a meeting of the Pharmaceutical Council to restore the name of Edwin Constable to the register?—Yes; the name of Edwin Constable, 223 Green Lanes, Small Heath, Birmingham.

No register has since been published?—No.

Then, in the ordinary course of things, his name will appear on the next published register?—Yes; as residing at Birmingham.

Francis Keep, Bank Buildings, Walsall, called and examined by Mr. Glaisyer: Are you the owner of 64 Upper Ruehall Street, Walsall?—I am.

Who is your tenant of that property?—James Tyrer.

Have you granted any lease to him?—Yes; lease produced, dated December 30, 1876, for a term of 21 years, at an annual rental of 60*l*. A clause showed that the defendant had no power to sublet any part of the premises without the written sanction of the landlord.

Have you given the defendant permission to sublet any portion of the premises in question?—No.

Robert Leighton, Assistant Overseer for the Walsall Borough, appeared on subpoena, and produced the Rate Book.

Mr. WILLIAMS remarked that to save time he would admit that defendant paid the rates.

Mr. GLAISYER: And the gas?

Mr. WILLIAMS: I won't say anything about the gas.

Mr. GLAISYER: Then we will call Mr. Stockhouse, the collector.

Mr. WILLIAMS: Very well; I will admit he pays gas also.

Mr. HENRY HOBSON, chemist and druggist, of 82 Ablewood Street, Walsall, attended upon subpoena. He testified to being a former tenant of the premises now occupied by the defendant,

and upon leaving in March last to selling the fixtures of the shop to the defendant. Since that time he had no dealings with him. He knew nothing of Constable, and was not aware that he ever saw him.

Cross-examined by Mr. Williams: When did you first see Mr. Hynodon?—On Wednesday last.

Before or after this purchase was made?—After the purchase was made, and I wish it to be understood that I have had nothing to do with this prosecution.

Police-constable STRINGER, sworn and examined by Mr. Glaisyer, said: On the previous Monday morning he went to 64 Upper Ruehall Street, and asked for Mr. Tyrer; defendant replied, "I am the man." Witness gave him the summons, upon which he remarked, "I expected so." Witness said, "What have you been doing?" Defendant replied, "I have not passed my examination: it was an error on my part. I am using Mr. Constable's name."

Mr. GLAISYER said this was the case for the prosecution.

For the defence Mr. Williams submitted that the case had not been made out. He thought the magistrates would see at once that the prosecution had made a mistake, and that he had no case whatever to answer, they having chosen to proceed under the 17th section of the Act instead of under an earlier section, viz., the 1st. They found Mr. Tyrer—at least they said so, but he would not admit it—without a certificate, carrying on the business of a chemist and druggist, and they put a policeman into the box to say that defendant admitted to him having committed an error, not having passed his examination, and was still using Mr. Constable's name. He would deny that if that were true it would be an infringement of the Act. Persons might sell drugs so long as they did not sell poisons, without having a certificate, and had the prosecution found that defendant had prescribed or done anything within the meaning of the Act, they might have proceeded under the 1st section, and charged him with illegally trading as a chemist and druggist. Instead of this, however, they had proceeded under the 17th.

Mr. GLAISYER: You are wrong. I think this section alone deals with the labelling of poisons.

Mr. WILLIAMS: That is not what I mean. Chemists and druggists within the meaning of the Act may be persons who assist others, "for the compounding of the prescriptions of duly medical practitioners, also of assistants and associates."

Mr. GLAISYER: Who have been duly registered?

Mr. WILLIAMS: Assuming so, it was required to label the poison with the name and address of the seller, and that "for the purpose of this (17th) section the person on whose behalf any sale is made by an apprentice or servant shall be deemed to be the seller." It was not simply because a man stood behind the counter that he was to be deemed the "seller." The "seller" was the responsible person against whom there would be a remedy in case of anyone being wrongly supplied. It had been admitted that Mr. Constable was a chemist and druggist, that the packet of poison bore his name, and that the name was also over the door. That being the case how could the prosecution say that Mr. Constable was not the "seller," and defendant had but simply supplied the poison on his behalf? The prosecution had no evidence that defendant had not sublet the premises.

Mr. GLAISYER: Yes, we have.

Mr. WILLIAMS: You have only the evidence that no leave or license has been applied for. There was no evidence whatever that Mr. Constable was not the person on whose behalf the poison was sold, or that the requirements of the Act have not been complied with. For all they knew, defendant might be in some way engaged by Mr. Constable, and it was for the prosecution to prove their case, not for him to prove a negative. It was all very well that Mr. Haydon was secretary to the society, but he was none the less an informer, and for the pennyworth of oxalic acid, tried to make his client liable to a penalty of five pounds. He hoped the magistrates would require strict proof that the offence had been committed. He did not say that if the charge had been brought under the 1st or 2nd section, he might have considered it necessary to put witnesses into the box, but, being brought under the 17th section, he should call no evidence, but simply leave the case in the hands of the Bench.

The Magistrates retired for consultation. On their return the chairman said:—We consider the case proved satisfactorily, and, as a high penalty is not asked for, the fine will be twenty shillings and costs.

FALSE REPRESENTATIONS—FINE ONE SHILLING!

At the Rugeley Petty Sessions, held on the 20th ult. before J. Spode, Esq., Lord Zouche, and T. L. Birch, Esq., a police-constable of the Staffordshire constabulary, named Ralph Ratcliffe, was charged with having, on August 31 last at Rugeley, when purchasing and demanding certain arsenic from Thomas Greensmith, chemist, of Rugeley, given false information in relation to the purpose for which the arsenic was required, which he, the said Thomas Greensmith, was authorised to inquire into from him, viz., by stating that the arsenic was for George Dinneford, for the purpose of poisoning mice, whereas it was not intended for such person or purpose.

Mr. GLAISYER, solicitor, to the Chemists' and Druggists' Trade Association, Birmingham, prosecuted, and Mr. Horatio Brevitt, clerk to the Wolverhampton County Magistrates, defended.

Mr. GLAISYER said the summons was issued under Sections 1 and 4 of Vict. 14 & 15, cap. 13, commonly known as the Arsenic Act, which provided that any person selling arsenic should forthwith enter or cause to be entered, in a regular manner, in a book kept by such person for that purpose, according to the form which was set forth, a statement of such sale, with the quantity of arsenic so sold and the purpose for which such arsenic was required or stated to be required, and the day of the month and year of the sale, and the name, place of abode, and condition or occupation of the purchaser, into all which circumstances the person selling such arsenic was by the statute required and authorised to inquire; it was also enacted if any person purchasing such poison should give false information in relation to the particulars of the purchase, every person so offending should be liable to a penalty not exceeding 20s., upon summary conviction before two justices of the peace. He ventured to say that Mr. Greensmith had been summoned a fortnight previously for selling to this police-constable a small quantity of arsenic without making use of all the formalities prescribed by the Act. The present charge was not taken up from spite against the policeman, but on public grounds, simply in order to show that the general body of chemists and druggists throughout the country could not be prosecuted with impunity on charges which were supported by means of falsehood and deceit. There could be no doubt that the offence had been committed, for not only should he prove by the evidence of Mr. Greensmith that the defendant went into his shop and purchased some arsenic, stating that he wanted it for Mr. Dinneford, head gardener at Wolsley Hall, for the purpose of killing mice in the greenhouses, but he should call Mr. Dinneford to prove that defendant was entirely unknown to him, that he did not send him for the poison, and that he had not used or required any poison for mice. This evidence was supplemented by the confession of the defendant when in the witness-box at the last Petty Sessions, when he admitted the statement made to Mr. Greensmith was entirely false; the Bench on that occasion considered that the offence was one of a very serious nature, and inflicted a penalty of one pound, not so much, the Chairman had stated, as a punishment, but as a warning to other tradesmen, to prevent them from acting in a similar way, but he wished to know if the present case was not quite as serious, or more so. In Mr. Greensmith's case, that gentleman was innocently led to supply poison for the use of a person who was a regular customer of his for a very usual purpose, but in the present case the police-constable, under the direction of the chief constable, told lies in order to procure a case upon which to prosecute Mr. Greensmith. He argued that the man who told lies to obtain evidence upon which to found a prosecution would be the most likely man to tell lies on oath in the witness-box to obtain a conviction. He was aware that public opinion was rather in favour of these methods of detection in order to procure cases, but that such practices could quickly turn the use of lies and deceit to still more serious purposes had been proved by the recent disclosures in the Bow Street Detectives' case. It might possibly be argued that the defendant was instructed by the chief constable to take the course he had followed, but if so he thought this only aggravated the offence, and showed that the chief constable was a man by whom falsehood was regarded with complacency, and who gave to his inferior officers encouragement in this line of conduct.

Mr. BREVITT remonstrated against this attack on the chief constable, who had nothing to do with the case.

Mr. GLAISYER said, on the contrary, the defendant himself on

oath in the witness-box, at the last Petty Sessions, that he was acting under the instructions of the chief constable in stating the poison was required for Mr. Dinneford for killing mice. He continued to say that the direction of the chief constable, although it revealed the practice of the force, did not justify the defendant for following such instructions, nor did the order of his superior officer justify the defendant in breaking the law. He concluded by saying that it was not often that a Bench of magistrates had such an opportunity of expressing an opinion upon this system of detection, and he therefore asked the Bench to pass a severe censure upon the conduct of the defendant, and to inflict a heavy penalty to add force to their expression of dissatisfaction.

Mr. THOMAS GREENSMITH, chemist and druggist, of Rugeley, stated that the defendant came into his shop in plain clothes on August 31, and said he wanted some poison, particularly asking for arsenic. In reply to questions from witness, defendant said he wanted it for Mr. Dinneford, the head gardener at Wolsley Hall, for the purpose of poisoning mice in the greenhouse. As Mr. Dinneford was a regular customer, witness did not hesitate to supply him with the poison. He saw defendant in the witness-box at the last petty sessions, when defendant said that he had acted upon the instructions of the chief constable, that he did not know Mr. Dinneford, and that the statement he made to witness in the shop was a false one.

Mr. BREVITT cross-examined the witness at some length.

Mr. GEORGE DINNEFORD, head gardener at Wolsley Hall, was called to prove that he knew nothing of the defendant, nor had authorised him to purchase arsenic.

Mr. BREVITT, in his remarks for the defence, said the question before the Bench was whether the defendant really made a false statement or not in answer to the questions which were asked him. The particulars required by the Act of Parliament to be demanded from the defendant were, first the statement of sale, and here there was no falsehood. The next questions were the quantity of arsenic sold, the date, month, and year. These were correct, as was also the name of the purchaser. The next was, "for whom the poison is required, or stated to be required," and he (Mr. Brevitt) said that Mr. Greensmith should have asked this question, and not for whom it was required—a question which had no right to be put. He asked the Bench to give their most serious consideration to this fact, and not to convict the defendant because he employed these means in order to detect the plaintiff, who, according to his own evidence, showed great irregularity in the manner in which he had kept his poison-book. In continuation, Mr. Brevitt said that, notwithstanding these irregularities of the plaintiff, the Bench were asked to convict the defendant, whose only fault appeared to be that he had obtained a conviction against Mr. Greensmith; he argued that there had been no false information given to the prosecutor in reply to questions asked of him. There was no evidence to show that defendant did not require the poison for the purpose he named, and even now he might hand it over to Mr. Dinneford for that purpose, whilst the question as to whom the poison was for was entirely an illegal one.

The Chairman, after some consideration, said the Bench considered that in the present case the Act had been broken, and, so far, they were bound to convict; but at the same time they did not think defendant committed the offence with the slightest illegal intention. A nominal fine only would be imposed, namely, one shilling and costs.

EXTENSIVE ROBBERIES OF PATENT MEDICINES, &c.

JACOB HUGH PAYNE (26), chemist, 15 Princess Road, Birmingham, was charged, on September 28, with stealing a large quantity of patent medicines belonging to his employers, Messrs. Philip Harris & Co., wholesale chemists, of the Bull Ring; and Sidney Wm. Parker (36), parcel clerk, Victoria Terrace, Birchfields, and Horace Bygrave (41), traveller, of Norwich, were charged with feloniously receiving the same. Payne had been employed by the prosecutors as warehouseman, his duty being to receive parcels, but never to send anything out. On the 6th ult. Parker, manager at the Globe Parcels Office, Birmingham, offered a quantity of patent medicines to a Mr. Brown, chemist, of Hookley Hill, at 25 per cent. under cost, telling him that they had been received for a debt from one of their agents. Believing the representation to be correct, Mr. Brown purchased the goods, and also another lot offered on the 14th ult. Suspicion being excited, inquiries were instituted, and it was

discovered that Payne, on the 4th ult., had sent a parcel to Parker's warehouse. Upon being questioned about the parcel Payne's answers were so unsatisfactory that he was given into custody. Parker was apprehended shortly after. The two prisoners were taken before the magistrates and remanded. Payne subsequently made a clean breast of the transaction to Mr. Heeley, of the firm of Harris & Co., inculpating Parker and the prisoner Bygrave. The latter was accordingly apprehended. When arrested, Bygrave said he had been drawn into it by Payne, who had requested him to take a shop for the disposal of the goods he said he could purloin. Payne said to him on one occasion, "I can get about 100% worth of goods a week, as it is all under my control, and is only yet in its infancy."

Prisoners all pleaded "Guilty" to stealing. Payne was committed to gaol for six calendar months, and the other two to four months, with hard labour.

LEAD IN CITRATE OF MAGNESIA.

At the Central Police Court, Glasgow, on Thursday 4th inst., before the Stipendiary, George Smith, chemist and druggist, 112 Renfield Street, Glasgow, was charged, under the Sale of Food and Drugs Act, with having sold to Inspector Walker half a pound of citrate of magnesia, which was not of the nature, substance, and quality demanded by the purchaser.

Dr. Smith pleaded not guilty, and at the outset questioned the legality of the prosecution on the ground that the drug mentioned in the summons as being sold was citrate of magnesia, while that which he supplied was "citrated magnesia," and was so labelled and declaration made to the inspector at the time of purchase.

The Court over-ruled the objection, the two names being considered synonyms.

Inspector Walker and assistant proved the sale, and Mr. Walker, cross-examined by Dr. Smith, said he asked for half a pound of citrate of magnesia and was told by the defendant that he did not keep true citrate of magnesia, and that it was not commonly sold, but "citrated magnesia" sometimes went by that name. He did not know the difference between citrate of magnesia and citrated magnesia, did not know what citrate of magnesia was composed of. The defendant had tried to explain it to him, but he did not comprehend the explanation; he knew nothing of chemistry.

WILLIAM WALLACE, Ph.D., F.C.S., &c., City Analyst, deposed that the citrate of magnesia contained .37 grain of lead per pound, which quantity he considered might be injurious to health. Lead was a cumulative poison.

Dr. Smith: Are you aware that citric acid which enters into the composition of citrate of magnesia cannot be had free from lead?

Dr. WALLACE: I can prepare it free from lead.

Dr. Smith: So can any intelligent chemist, on a small scale; but I assert that commercial citric acid invariably contains lead as a necessary contamination from the present mode of manufacture. The acid sent out by the best houses always contains a small proportion, and I consider, from a medical point of view, that the quantity present in this sample could not be injurious.

Mr. RONT, R. TATLOCK, F.C.S., &c., City Analyst, supported Dr. Wallace's evidence.

Dr. RUSSELL deposed: I am medical officer of health for the City. Lead is a cumulative poison, and small repeated doses often produce symptoms of poisoning. The quantity found in this citrate of magnesia might prove injurious to health.

Cross-examined by Dr. Smith, he admitted that he had frequently prescribed citrate of magnesia in his private practice, and had not observed any poisonous symptoms consequent on its use, nor had he heard or read of such.

This was the evidence for the prosecution.

Dr. Smith, on being called on to produce his witnesses, complained of being taken unawares by the prosecution, as the summons did not state particulars, and he was in ignorance of the point on which the case would turn till he appeared at the bar. He happened, however, accidentally to meet Mr. Howie, of Edinburgh, who might be able to tell them something; and Mr. McAdam, managing partner of the Glasgow Apothecaries' Company, was also in attendance.

Mr. W. L. HOWIE deposed: I am a pharmaceutical chemist. I know that citric acid and citrate of magnesia contain lead in small proportion.

THE PROSECUTOR FISCAL: But this contains .37 grain per pound.

Mr. HOWIE: That is about one-third of a grain per pound.

The STIPENDIARY: One-third of a grain?

Mr. HOWIE: Yes; a small fraction over the third of a grain. I don't think that is a large proportion. I have sold in the usual way of business large quantities of citrate of magnesia, and am brought into contact with those who are constantly selling it. I have never heard of injury resulting from its use. I would not imagine .37 grain per pound injurious, but this is a medical question of which I have no special knowledge. Citric acid almost invariably contains a trace of lead from the vessels used in its manufacture.

THE FISCAL: You say "almost invariably." Can it not be made free from lead?

Mr. HOWIE: At present I believe it is not so made commercially. This is a question to which makers have been giving attention, and it has been discussed in the trade journals during the last few years. The difficulty has not yet been overcome. A pure citric acid would be looked upon as a chemical curiosity.

Mr. ROBERT McADAM deposed: I am aware of the difficulty manufacturers have in producing a comparatively pure citric acid. I have always believed citric acid, and therefore good citrate of magnesia, contained lead. I have sold Dr. Smith's article largely to druggists and doctors throughout the country, and have never had complaints; in fact, I have always had great satisfaction in selling this article. I have never heard of injurious effects being produced by the use of citrate of magnesia.

Dr. Smith, moved that the case be dismissed. He in the course of his manufacture sent out many tons annually, and had never heard of injury caused by the use of citrate of magnesia, and as a Doctor of Medicine he would be the last man to send out an article which he suspected might be injurious, and he considered this trace of lead could not be so accounted. As a maker he purchased his materials only from standard houses, all his citric acid being procured from Howards & Son, London, a house whose reputation was second to none in this or any other country, and more than this he could not do.

The STIPENDIARY continued the case for a week.

LEAD IN CITRIC ACID.

At the same court John Campbell, chemist and druggist, 83 Stopercross Street, Glasgow, was charged with having sold $1\frac{1}{2}$ ounces of citric acid which was found to be adulterated to the extent of .4 grain of lead per pound.

Mr. CAMPBELL pleaded not guilty, and, after proof, said that he had no witnesses to call, the assistant who sold the acid having become insane, and was at present confined in Gartnavel Asylum, but hoped that, as in the previous case, decision would be delayed, as the cases were parallel.

THE FISCAL: No, no. This is a much more gross case.

Mr. CAMPBELL: Just the difference between 37 and 40.

The STIPENDIARY: The case will also be continued till this day week.

CONCLUSION OF THE FOREGOING CASES.

The charge against Dr. George Smith for selling adulterated citrate of magnesia, continued from the previous week, was brought up at the Central Police Court, Glasgow, on the 11th inst.

It being intimated that no further evidence would be taken, Dr. Smith said that he had yet had no opportunity of bringing forward witnesses as he was taken by surprise by the prosecution, and quite accidentally was able last court day to put two gentlemen in the witness box. He then had no time afforded him to get a defence, but understanding that the case was continued for further hearing he had gone to considerable trouble and expense in bringing forward scientific and other witnesses who were now ready to give evidence. From the nature of the prosecution, and the publicity given to it, to the damage of his good name, he almost demanded as a right that he should be allowed an opportunity of clearing up the matter, and the case being of a purely technical nature, and of much public importance, having it fully investigated on its scientific, medical, and legal merits.

The STIPENDIARY said that the case was completed last day, and was continued only for judgment, so that no evidence could now be led. He thought, however, that the defendant was satisfied that this was unnecessary. The charge was that Mr. Smith had sold to Alexander Johnston Walker, Food Inspector, half-a-pound of citrate of magnesia not of the nature, substance, and quality demanded. The article asked for was citrate of

magnesia, and according to the certificate of analysis it contained citric acid and magnesia contaminated with lead to the extent of .37 grains to the pound. It was brought out in evidence that the article became contaminated with lead in consequence of the leaden vessels used in the manufacture of the citric acid, and that citric acid could not be manufactured without lead vessels. It having been established that citrate of magnesia could not be obtained without a small proportion of lead, he could not hold that an offence had here been committed, the article not being sold to the prejudice of the purchaser, and could not be said not to be of the nature, substance, and quality demanded. What was demanded was citrate of magnesia, and what was sold is the only article of that name which can be obtained. The person who purchased the article stated in his examination that he did not know what was the component parts of citrate of magnesia, and, therefore, it could not be said that what he got was not of the nature, quality, or substance demanded. He, therefore, must find the charge not proven. The quantity of lead contained in the citrate of magnesia was very infinitesimal. The pound avoirdupois contains 7,000 grains, so that quantity of lead would be about the 23-thousandth part of a pound. There was no doubt that lead was a cumulative poison. Still, he had no power under the Act to find the charge proven. There was a remedy for any evil that might arise from the use of the article—the people were warned by this prosecution that citrate of magnesia contains lead, and that lead is a cumulative poison, and the remedy was not to use the article sold as citrate of magnesia.

Dr. Smith asked for expenses, but they were not allowed.

The charge against John Campbell for selling citric acid containing .4 grain of lead per pound was also found "not proven," being held as decided by the evidence led in the previous case.

On the second day's hearing, besides witnesses, there was a considerable number connected with the trade in court, the case having excited great interest in the City, and much sympathy was expressed for Dr. Smith as being the victim of another alarmist prosecution, made all the worse by the imperfect and, in some cases, garbled reports of the local newspapers.

Among those present we noticed Dr. Paterson, M.D., Dr. Ditmar, F.C.S., Charles Harvey, Esq., London, Messrs. Jann, Fenwick, Davidson, Kinnonmont, Cross, McAdam, Howie, Walker, White, &c.



AND

Literary Notes.

Fownes' Manual of Chemistry. Revised and corrected by Henry Watts, B.A., F.R.S., &c. 12th edition. London: J. & A. Churchill. 1877.

A work that has reached its twelfth edition seldom admits of any very extensive criticism; before it can arrive at this stage it must have established a reputation and secured its position as a standard book. The division of the work into two volumes is a decided improvement, it had grown to such unwieldy proportions as to make this alteration very desirable. The first volume, embracing Physical and Inorganic Chemistry, is the same in general arrangement as this portion of former editions; new matter has been added, including the most recent discoveries, so that the work is now quite on a level with the most advanced science. We are glad to see Mendelejeff's development of Newland's periodic law extensively referred to, and there is also a chapter on the interesting new element Gallium, the discovery of which Mendelejeff so ingeniously anticipated. The second volume is a decided improvement on the organic chemistry of the former editions. The isometric relations of organic bodies are very fully considered, the beautiful researches of Koerner being thoroughly utilised. The editor justly claims that "this part of the subject is here represented in a form in which it has not yet appeared in any English publication except the *Journal of the Chemical Society*." The brief notice of Physiological Chemistry, with which former editions concluded, is omitted in this edition; the subject certainly demands a treatment which it would be difficult to give it in a work of this character. There is a separate index to each volume. Fownes' "Chemistry"

has a well-earned reputation to maintain, and the present edition testifies that its distinguished editor is alive to the fact and quite equal to the occasion.

Wills' Elements of Pharmacy: Designed as a Textbook for Students preparing for the Pharmaceutical Examinations. Pp. 119, interleaved, 6s. 6d. Published at the Westminster College of Pharmacy.

This is intended as a companion to the "Elements of Vegetable Materia Medica," by the same author, recently reviewed in these columns. The author evidently expects this work to be studied textually; that is to say, every statement is to be used as a text, and examined and expounded either by the student himself or by his teacher. Used honestly in this way it is a very convenient guide to the subject it treats of. One slip that we have noticed ought to be corrected. The green colour of Oleum Cajuputi is said to be due to the chlorophyll it contains. It has been proved, on the contrary, by Mr. Hiestad that this colour is due to the presence of a trace of copper, which is found in all the imported oils. His results were published in 1872, and are repeated in the "Pharmacographia." We have noticed a few typographical errors.

THE LAST OF THE "PHARMACOGRAPHIAS."

THE copy of Hanbury's "Pharmacographia" which we gave to the winner of our botanical contest last month was, we were informed, the last in the hands of the publishers, and it also appears to be very unlikely that a new edition will be reproduced. This seems to us a curious fact. "Pharmacographia" is perhaps the most original and valuable collection of information concerning a certain section of the materia medica in this or in any other language, and for many years it would be one of the chief desiderata of the intelligent pharmacist. Of course, if the book proved a loss, the publishers cannot be blamed for not renewing the venture, but as they have sold out to the last copy this can hardly be the case, unless we assume that at the commencement they were actuated by motives of charity or misguided by an erroneous calculation. The latter theory seems to derive some support from the fact that Messrs. Macmillan extracted from us for this last copy the sum of three shillings above their advertised price, a policy which, on the part of such an eminent house, we could only explain by supposing that the "Pharmacographia" balance-sheet lacked just that sum to make both ends meet.

NEW BOOKS.

PUBLISHED SINCE SEPTEMBER 15.

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| Analytische Chemie f. den Gebrauch im Laboratorium u. das Selbststudium. By N. Menschutkin. Svo., Deutsche Augs. v. O. Bach | 8/6 |
| Elements of Pharmacy. By G. S. V. P. Wills, pp. 119. 62 Lambeth Road | 6/6 |
| Essay on Bye-Laws. With an Appendix containing Model Bye-Laws issued by the Board of Trade, the Education Department, and the Local Government Board. By W. G. Lumley. Post 8vo., pp. 428. Knight & Co. | 10/ |
| Farmer's Veterinary Adviser: a Guide to the Prevention and Treatment of Disease in Domestic Animals. Illustrated. By J. Law. Crown 8vo. (Ithaca.) London | 15/1 |
| Fat and Blood, and How to Make them. By S. W. Mitchell. 12mo. (Philadelphia.) London | 6/ |
| Handbook of Practice of Medicine. By M. Charteris. 12mo., pp. 290. Churchill | 6/6 |
| Laws of Life and Alcohol. By T. P. Lucas. Post 8vo. Tweedie .. | 2/ |
| On the Prognosis in Cases of Valvular Diseases of the Heart: being a revised Reprint of a Paper in the St. Thomas's Hospital Reports, Vol. 2, 1871. By T. B. Peacock. 8vo., pp. 54. Churchill .. | 3/6 |
| Papers on Health. 3rd series. By J. Kirk. 12mo., pp. 251. (Glasgow: Morison.) Hamilton. | 2/0 |
| Pollen. With 446 figures. By M. P. Edgeworth. 8vo. Hardwicke & Bogue | 7/6 |
| Preventive Medicine in relation to Public Health: being Lectures and Addresses delivered at St. Thomas's Hospital. By A. Carpenter. Revised by the Author. Post 8vo., pp. 364. Simpkin .. | 6/0 |
| Question of Rest for Women during Menstruation. By M. P. Jacobl. 8vo. Smith & Elder | 12/0 |
| Results of Researches in Alcohol and Action of Alcohol on the Mind. By B. W. Richardson. Post 8vo. Tweedie | 1/6 |
| Statutes by Heart: a System of Memoria Technica applied to Statutes; embracing Common Law, Chancery, Bankruptcy, Criminal Law, Probate and Divorce, and Conveyancing. By F. W. Head. 8vo., pp. 16, sewed. Stevens & Son | 1/6 |
| Things you Ought to Know about Yourself; or, Sketches of Human Physiology. A Popular Handbook. With Illustrations. By R. T. Kauffman. 12mo., pp. 104. Partridge | 2/6 |

MEDICAL CLEANINGS.

CHRYSOPIGANIC ACID in the form of ointment has been found successful at St. George's Hospital in two cases of psoriasis, one of 5½ years standing, which had resisted all other modes of treatment.

Mr. R. Wood, writing to the *Lancet* of September 15, describes a case of poisoning by nitrate of potash. A woman took two ounces, mistaking it for Epsom salts, and immediately felt great burning pain in the stomach, and soon vomited. A large dose of ipecacuanha was given followed by chalk and oil mixed with milk, which brought up some brownish fluid. The violent pain in the region of the stomach continued for more than three days preventing sleep and causing great prostration, but on the fourth day the pain became less intense, and the patient gradually recovered.

BORACIC ACID OINTMENT.—A. W. Bateman, writing to the *British Medical Journal*, recommends Professor Lister's boracic acid ointment as preferable to any other dressing for wounds in general. It does not adhere to the edges of wounds or the clot between them like dry lint. It does not soak and irritate the skin like prolonged water dressing. It is less liable to damage granulations than lint, and, owing to its antiseptic properties, does not require such frequent renewal as other dressings. In applying it, care should be taken to secure a good breadth of the antiseptic dressing on all sides of the wound larger in proportion to the amount of discharge.

TREATMENT OF BURNS AND SCALDS.—The efficacy of bicarbonate of soda as a topical application in burns and scalds has been advocated by Dr. S. F. Waters, of Salem, U.S.A. At a recent meeting of an American Medical Society, Dr. Waters is stated to have demonstrated the value of the remedy on his own person. He allowed boiling water from a sponge to flow over his right wrist, a severe scald being the result. He then applied bicarbonate of soda to the scalded surface, and laid over it a wet cloth. The pain was almost immediately removed, and the next day only a slight discolouration of the skin of the injured part remained.

REGISTRATION OF CASES OF POISONING.—A leader in the *British Medical Journal* animadverts on the very imperfect and unsatisfactory way in which the registration of cases of poisoning is performed. Cases are cited in which diseases have been registered as the cause of deaths which were really the effect of poison. In others which were the result of disease poison is assigned as the cause, and the inference drawn is that until the appointment of a recognised public officer, whose special duty shall be the investigation of doubtful cases, we can hardly expect any great improvement. Any one who studies the various daily journals and medical papers will be fully convinced that there is in England no medium in which the various cases of deaths and attempts at poisoning are recorded.

THE ANTAOONISM OF ATROPIA AND OPIUM.—Atropia has attained a certain fame as an antidote to poisoning by opium and its preparations. A case, however, recently communicated to the *British Medical Journal* proves that it is not always successful. The case was that of a child three-and-a-half years old, one of four to whom the father had administered laudanum. Three out of the four recovered. The fourth was treated at first by emetics and strong coffee, but these being ineffectual, 3-200th of a grain of atropia sulph. were injected subcutaneously. The pupils had been contracted to a pin's point before the administration of the atropia, but they quickly dilated, showing that the atropia was producing its full effect. Nevertheless the stupor went on increasing, and reached its climax when the pupils were most dilated. The child died from suffocation about twenty-six hours after the commencement of the treatment. It was observed that holding him up by his heels had a marked effect in rousing him after all other methods had failed to produce any result.

A PHARMACOLOGICAL LABORATORY.—An important addition is being made to the means of practical teaching in the University of Berlin, in the form of a pharmacological institution, under the direction of Professor Oscar Liebreich. It contains two departments, one physiological and the other chemical, in which pharmacological, physiological, and chemical researches on medicines and their action will be carried on. The Prussian Government is about to erect a building for the laboratory. The example will probably be followed in the other German universities.

INDIARUBBER CLOTH IN DISEASES OF THE SKIN.—M. Hardy, of Paris, has now employed indiarubber cloth instead of poultices or local baths since 1868. It is composed of a layer of caoutchouc adherent to a piece of cotton, and forms an impermeable tissue. After a short time an abundant sweating takes place from the part enveloped, under the influence of which crusts and scales are loosened, the epidermis spreads over the ulcers, and the skin becomes softened. A very rapid mortification of the skin takes place; two or three days of application suffice to completely clean a scalp covered with abundant scales of eczema, &c. After 48 hours, hands affected with chronic eczema, with fissures and cracks in all directions, become cicatrised, and the skin recovers its suppleness. The treatment is of particular value in the second stage of eczema. Oiled silk cannot take the place of the rubber cloth. This method is also serviceable in psoriasis and chronic lichen.

EFFECTS OF VARNISHING THE SKIN.—A leader in the *British Medical Journal* describes some experiments made by Dr. Senator, of Berlin, which have entirely upset the idea that death is invariably the result when the skin of the human body has been well varnished. The well known and oft-quoted case of the boy who was gilded to sustain the character of an angel in a miracle play is attributed not to the suspended action of the skin, but to the presence of some poisonous matter in the gilding used. The numerous popular experiments performed in America with the aid of tar and feathers prove by the usual survival of their subjects that varnishing is not so deadly as has been generally believed. It is true that when small animals are completely varnished their temperature is rapidly diminished, albumen appears in the urine, and complete prostration and death soon follow. The rapidity of this event is in direct proportion to the ratio of the surface of the animal to its bulk. Small dogs die within a half to four days or longer. Large dogs live nine weeks, and horses to still greater periods. But experiments on the human subject designed to utilise the properties of varnish have been unsuccessful. In cases of typhoid fever, subacute rheumatism, and other diseases, patients have been gradually enveloped in sticking plaster, tar, or varnish, without experiencing the diminution of temperature which is noticed in the inferior animals, and which it was desired to produce.

MEDICATION BY MEANS OF THE UNDERCLOTHING.—Under the title "Dermic Medication," Dr. Hachenberg, of Round Mount, Texas, gives an account of a method of treatment concerning the value of which he had published as far back as 1852. The medicine is used in the form of a solution into which the woollen underclothes of the patient are dipped, being well dried and aired before they are worn. The perspiration dissolves the medicine, which is thus kept continually applied to the skin, producing in many instances the same effect as when employed in the ordinary modes. This method is of particular service in the weak, especially in diseases of the skin. The whole range of soluble medical salts can indeed be used in this manner. "For example, I have treated obstinate constipation with a saturated solution of sulphate of magnesia by the woollen shirt; a chronic intermittent fever with a weak acidulated solution of quinine; neuralgia and hysteria with several of the sedative and antispasmodic salts; skin diseases by alum, borax, chloride and sulphate of potash, &c.; and constitutional depression and paralysis by strychnine. I have used solution of nauseants by the shirt in affections of the lungs, and the mucous tissue in particular, with the desired effect. Many of the excessive hæmorrhagic and morbid exosmotic operations of the body can, in a great measure, be controlled by the alum shirt, as colliquative sweats and diarrhoeas, and even effusions into the cellular tissue not caused by some serious organic disease."—*New York Medical Record*, July 7.

MERCURIAL SUBCUTANEOUS INJECTIONS.—For many years subcutaneous injections of various preparations of mercury have been used on the continent with marked success in cases of syphilis. The clinic of one surgeon of Berlin, who has used it in 14,000 cases during the last twelve years, shows that the average time spent by each patient in the hospital has been reduced from ten weeks to four, while the proportion of relapses has been reduced from 80 to 40 per cent. The method is cleanly, and requires the introduction of but a small quantity of mercury into the system. Although the operation is by no means painless, yet the advantages indicated will probably make it popular with both physician and patient. Numerous preparations are used by different operators. One of the earliest is a solution of albuminate of mercury made as follows:—A clear solution of albumen is obtained by diluting white of egg, free from membrane, with one-and-a-half times its weight of distilled water. To 100 parts of this 60 parts of a 5 per cent. solution of corrosive sublimate and 60 parts of a 20 per cent. solution of chloride of sodium are added. Distilled water is added to bring the measure up to exactly 300 parts. This solution contains 1 per cent. $HgCl_2$, and will keep well in ordinary temperatures. There is so much difficulty in preparing this solution free from corrosive sublimate that a mercuric peptone prepared as follows has been proposed as a substitute:—One part of meat peptone is dissolved in 50 parts of distilled water, 20 parts of 5 per cent. solution of corrosive sublimate is added. This produces a cloudiness which is cleared off by adding 15-16 parts of a 20 per cent. sodium chloride solution. This preparation contains about 1 per cent. of mercuric peptone. It sometimes deposits on keeping, but may be decanted from the precipitate without noticeable loss of strength. Calomel rubbed up with 10 times its weight of glycerine and a little water has been used, and if the injection be carefully made no irritation follows. Others use a 1 per cent. solution of corrosive sublimate, others, again, a solution of the cyanide, or biocyanide, of mercury in water. Mercuric cyanide is made by shaking red oxide of mercury with freshly-prepared solution of prussic acid till the latter is odourless, filtering the solution, adding prussic acid in excess, evaporating and setting aside in the dark to crystallise.



ELECTION OF COUNCIL.

TO THE EDITOR OF "THE CHEMIST AND DRUGGIST."

SIR,—I wish to call attention to a very smart letter, written by Mr. Chipperfield for the *Journal* of August 11, with the hope that his labour will not be lost. He calls the attention of the trade to the conduct of the four members of the council who recently voted in the minority against the proposition "that the council do now defend" a chemist who is prosecuted upon a question of counter-practice.

I wish to address my remarks to those members of the Pharmaceutical Society who, when they receive their annual voting paper, shew their business faculty by not throwing away, losing, or destroying the document; then, in the next place, to those who, by a stretch of the numerical faculty, are able to erase sufficient names to leave fourteen or less remaining.

To those members of the trade I wish to make the following humble request. Just copy the names of these four gentlemen—Cracknell, Hills, Schacht, and Williams; take care that they are not missing when next May election comes round; then, if you quite approve their conduct, just cross out all the names on the voting paper except theirs; if, on the other hand, you think that the chemist should have been defended, why, then you can cross out any names you like! Don't cross out all the names at the top of the list nor all the names at the bottom of the list, as some do, because you are educated men and supposed to know what is for your benefit, and who are your friends.

While speaking to these gentlemen I wish to simplify this difficult task by explaining that they can if they choose erase

all the names except one, if they wish to promote the election of one candidate particularly.

Should these precautions be attended to, we may in future years find that a much better proportion of our members have proved their interest in pharmaceutical politics by making use of their right to ballot for council.*

Should this advice be taken from time to time, as occasion may arise, I think that it is probable that in a few years' time we may have a council which will really represent the opinions of the members of the society. This will be much more creditable to us than having a body who are the constant objects of dissatisfaction and complaint.

When this time arrives, perhaps some modest men in the trade may be induced to join the society, and so put their shoulders together for mutual protection.

HENRY BARNABY.

Rochester.

ILLEGAL TRADING UNDER THE PHARMACY ACT, 1868.

TO THE EDITOR OF "THE CHEMIST AND DRUGGIST."

DEAR SIR,—One of the earliest published objects of this association was to defend the trade from encroachments by unauthorised dealers in poisons, and as the association has now been in existence upwards of twelve months it may interest many of your readers to be informed of the steps that have been taken to effect this object.

I have been repeatedly instructed by the Executive and Law Committees to collect evidence of infringements of the Pharmacy Act, 1868—in other words, make purchases of scheduled poisons from unregistered persons, and report the results to the registrar of the Pharmaceutical Society. In compliance with these instructions I have, from time to time, collected evidence of some twenty cases of illegal trading and forwarded particulars of the same to the registrar of the society, with a request that he would submit them to the council. The cases have been duly laid before the council, but in no single instance, as far as I am aware, have proceedings been taken against the offenders, although in one case I have on two occasions, at an interval of several months, made purchases of poison from the same person.

What has been done is this—the registrar, acting under the instructions of the council, has written the offenders a "caution letter," informing them that he has received information that they are dealing in poisons contrary to the provisions of the Pharmacy Act, 1868, and giving them notice that unless they desist from so doing proceedings would be taken against them.

Now in some instances traders infringe the Act in ignorance, when the "caution letter" possibly puts a stop to the evil, but in the majority of cases I am convinced the statute is being wilfully broken, and then such a letter does mischief, inasmuch as the illegal trading still continues, and it becomes a most difficult matter for a stranger to obtain the requisite evidence on another occasion. In proof of this, I have three times during the last six months purchased a scheduled poison from a person openly infringing the Act. On June 30 last I reported this case to the registrar of the society, forwarding him particulars of the third purchase; the offender was warned in due course. On Thursday last I endeavoured to make a fourth purchase of poison from the same establishment, when the assistant refused to sell it me, saying they had ceased to sell poisons except to persons they knew as customers.

It is an admitted fact that there are at the present time a large number of persons contravening the provisions of the Pharmacy Act in this country. The registrar himself admits that "the council has no idea of the enormous number of cases constantly reported to him; there was scarcely a day which did not bring information of some alleged infringement."—(See Report of Meeting of the Council, July 4, 1877, *Pharmaceutical Journal*, No. 367, p. 14.) I am continually receiving letters from members reporting cases and soliciting my aid to put a stop to them. In many instances the Executive Committee of the association would have instituted proceedings against the

* The number of voting papers which never return to Bloomsbury, or, returning, are, through informality, not counted, has been for many years a subject of remark.—H. B.

offenders under the 15th section of the Act, but the authority to take action under this section is vested in the registrar of the Pharmaceutical Society, who can sue only "in the name and by the authority of the council of the said society."

The council of the society having taken no steps to make use of the evidence collected at the expense of the association, beyond warning the offenders, the Law Committee, at their meeting on the 3rd ult., unanimously resolved to take action under the 17th section of the Act against illegal traders, who were selling poisons improperly labelled, and instructed their solicitor to proceed in such cases as he thought expedient.

The first prosecution took place at Walsall on the 26th ult., a full report of which was forwarded you on the same day. The result was highly satisfactory, as unmasking the proceedings of an unregistered person trading under the cloak of a duly registered chemist and druggist. I have taken out summonses against two persons residing in this town who, I believe, it will be found are infringing the Act in a similar manner. The cases will be heard at the police court on Tuesday next: a report of the proceedings shall be forwarded to you in due course. The effect of such prosecutions will probably be to cause unregistered men, when selling scheduled poisons, to distinctly declare on the covering of the packet, bottle, or wrapper containing the poison, their name and address, when it will be an easy matter for the council of the Pharmaceutical Society to sue under the 15th section of the Act, provided that the council deem it expedient to proceed against them.

I am, dear sir, yours faithfully,

23 Burlington Chambers,
New Street, Birmingham,
October 3, 1877.

W. F. HAYDON, Secretary,
Chemists' and Druggists'
Trade Association.

IF DOCTORS WILL NOT, AND OTHERS MAY NOT PRESCRIBE, WHAT ABOUT THE PATIENT?

TO THE EDITOR OF "THE CHEMIST AND DRUGGIST."

SIR,—Now that alleged breaches of the Apothecaries Act are being prosecuted with a vigour worthy of a better cause, I wish to expose for public animadversion the tactics of that huge trade union—the medical profession.

I have a small suburban cottage and garden at Leyton, Essex, where I am accustomed to amuse myself and take the fresh air daily for an hour or so. It is situated one mile either way from a registered medical practitioner. On Friday, September 7, a neighbour returned from town with his wife. About 10 P.M. he ate a small supper of mussels, and then retired to bed. In about a quarter of an hour he complained greatly of palpitation of his heart, arose, and vomited: his wife and her mother sent another neighbour for a doctor. On reaching his residence the doctor called down his speaking tube to know if his interrogator had half a sovereign, stating that that was his fee, and he required to be paid first. The messenger replied that he had not, but stated that there were four of them, all the dying man's neighbours, and they would guarantee payment: this offer was declined. The police station was close by, so they applied to the police, who at once ordered the doctor to attend, to which request he responded. It was too late: death had completed his victory! Of course an inquest was called, and held at the Greyhound, Leyton, on Tuesday, September 11, before Charles Crane Lewis, coroner for South Essex. I myself was summoned and chosen foreman of the jury: a *post-mortem* examination was ordered, and a special request was made by the jury and friends of the deceased that I should, upon their behalf, witness the *post-mortem*. To this I assented, and gave my assistance to the medical gentlemen. The *post-mortem* revealed these facts, viz., the body well nourished, the abdominal viscera healthy, likewise the thoracic viscera, with the exception of the heart, which was pale, flabby, and showing signs of adipose development. At the adjourned inquest on Friday, September 14, this verdict was recorded, viz., "That the deceased, Edwin Wicks, aged 27, died from syncope, induced by the weak action of the heart, accelerated by an indigestible meal just before retiring to rest." Had I slept that night at my cottage, in their excitement at the danger, and no medical attendant to advise two lone women, they would have aroused myself, and had I prescribed a glass of brandy and given a

stimulating mixture of chloric æther, ammonia, &c., and thus out of mere humanity stopped a gap (as the members of the Defence Association call it when their unqualified assistants prescribe in their absence), and so been the means of saving human life, I suppose that I should have heard from the Defence Association for a wilful breach of the "Apothecaries Act." At the adjourned inquest the jury requested that I would, as their foreman, censure the doctor for his inhumanity. This I declined to do, stating it was my belief that his not coming without the police call, possibly mistaking the case for some drunken brawl, was an error of the head and not of the heart.

The object of this letter is to show that urgent cases may, and do, arise, when for the *public weal* well-informed, but, in a legal sense, unqualified prescribers are useful.

I am, sir, yours obediently,

ROBERT OWEN FITCH, M.P.S.G.B.

CANINE TOXICOLOGY.

TO THE EDITOR OF "THE CHEMIST AND DRUGGIST."

DEAR SIR,—Having been an ardent sportsman and brod and roared a large number of pointers, I have had a varied experience in "poisoning dogs." I therefore venture to send you half-a-dozen cases just as they occur to me.

My first pointer bolted an ounce of arsenic and a pound of oatmeal which my housekeeper had just mixed and placed on the larder floor for the mice. He lingered for eight or ten hours after, and I verily believe he would have recovered if I had been at home earlier to attend to him.

My second dog—a fine animal, whose sire was sold for 80 guineas—became literally covered with abscesses at the end of the shooting season, from the effects of which he gradually sank and died. And when my man exclaimed, as he dropped him into the hole he had previously dug for him, "Poor old Ben, he will never lap any more water off the white paint again," he at once divulged both cause and effect as well as a habit of the dogs I was not previously aware of.

About ten years ago, when shooting over a gentleman's estate, one of my pointers picked up a part of a dead rabbit and bolted it. It had been well peppered over with strychnine and pegged down to the ground by the cover side as a bait for vermin by the gamekeeper. She continued to hunt as usual until sunset, and ate a hearty supper of oatmeal and milk four hours afterwards, but she was found dead in her kennel early the next morning. So much for arsenic, lead, and strychnia poisoning. I now turn to Scheele's prussic acid.

Thirty years ago I took a pointer bitch down to the canal side to destroy her. I gave her a drachm of prussic acid. She dropped instantly, without a struggle, was motionless, was dead enough apparently. I then gently lifted her into the canal and turned my steps homewards by the public road, a distance of half a mile. On my arrival there the very first thing I saw, to my utter astonishment, was the pointer bitch, as frolicsome as ever—if not more so—after her "dose" and "douse." She had quickly recovered herself, and taken a short cut home across the fields! There was no chemist and druggist in those days, so I told our relative, Dr. Belyse, the particulars, and he promised to, but never did, publish my discovery of a "powerful antidote against prussic acid poisoning!"

Whilst spending the day with a brother chemist last summer, a small Scotch terrier got run over by a gentleman's dog-cart. The wheel had passed over its loins, so that it had lost the use of its hind quarters. I immediately gave it a drachm-and-a-half of acid and left it, apparently, taking its last gasp. In about four hours afterwards a message came, saying, "the dog was coming round again," so I sent the apprentice with two drachms more acid, which he gave to her, and returned, saying she was as good as dead. She, however, lingered until the following morning, and although this little creature, weighing not more than thirteen or fourteen pounds, had swallowed nearly half-an-ounce of Scheele's acid, fresh from Herrings & Co., of London, the owner had to send for a policeman to shoot her at last! Whether, in this case, the injury to the spinal column interfered with the physiological action of the toxicant, I must leave others to decide. We are told, for instance, that spinal traumatism (or a severance of the spinal cord) is followed by a remarkable lowering of the temperature of the animal. The "douse" in the canal would have the same effect.

One of the handsomest young pointers I ever bred was sent to a "walk" to a tenant of my brother-in-law, a farmer, who professed to be skilled in "dog-flesh." He saw the puppy, a large one, had worms, and he, on his own responsibility, gave it three grains of Turbith's Mineral. It killed him in a few hours.

We want a smart, quick, and effective poison for dogs. I am told carbonate of baryta is the best for killing cats. Arsenic does not destroy them. It produces vomiting and violent inflammation of the stomach, from which they generally slowly recover. I believe the same may be said of dogs.

In my student days, when a private pupil to that celebrated veterinary surgeon Bracy Clarke, F.L.S., he used to say:—"While a medium size dog will take as much aloes as will kill his gouty master, a child at the breast will bear as much calomel as will kill a large dog; and while, again, we give an ounce-and-a-half or two ounces of turpentine to an adult for tetania, it is enough to kill four large dogs."

The latter I believe, for I once saw a celebrated greyhound of Dr. Belyse's killed by a tablespoonful.

Your correspondent mentions an ounce of lead. It is a very disagreeable thing, to me at least, to shoot a dog. I never shot but one and I will never shoot another. It was a powerful and savage brute that amused himself by worrying two sheep. After he had received the contents of my left barrel immediately behind his left shoulder he advanced a few paces towards me, and gave me such an indescribable look and uttered such an unearthly and horrible death-yell that I shall never forget it while I live.

Where practicable, the most humane way of destroying dogs is to drown them, after being thoroughly secured.

I am, faithfully yours,

HENRY HIGGINSON,

Rose Villa, Newferry, Birkenhead. M.P.S. 1847 to 1856.

P.S. During my long apprenticeship of seven years in a sporting district I was many times selected to give the *coup de grâce* to some members of the canidae, but in those days I never had to administer a second dose of Scheele's prussic acid. In fact it was then a popular opinion that a few drops in the "eye" were *quantum suff.*



NEUTRAL SALTS.—British Sailors.—*Punch*.

PATENT MEDICINES.—The stamps on patent medicines amounted in the last financial year (March 25) to 12,978*l.* 17*s.* 5*d.*, after an allowance of 5,242*l.* 15*s.* 2½*d.* in discounts, &c.

CONCISE.—The editor of an American paper recently insisted that poets must be brief. The next day he received a composition entitled, "The Ballad of the Merchant: 'Trust—Bust.'"

OH, HORROR!—*Surgeon*: Your pulse is still very high, my friend! Did you get those leeches all right I sent the day before yesterday.—*Patient*: Yes, sir, I got 'em right enough. But mightn't I have 'em bled next time, sir?—*Punch*.

ANOTHER ADVANTAGE OF PRINTED PILLS.—The last new thing in doctoring, says one of our comic contemporaries, is not merely to coat one's pills, but to inscribe on the coat the contents of the pill. Thus, if by chance a wrong pill or dose should be taken by the mouth, the stomach will be able to read that there has been a mistake, and straightway eject the erring drug.

HOW TO MAKE ASSETS.—An auctioneer in New York has found a profitable business in the sale of worthless securities, chiefly to one purchaser, who was thought to have a mania for throwing his money away; but who proved, on questioning, to have a deal of method in his madness. He explained that he sold them again for "assets." His customers were people who contemplated failure, and the worthless stuff he dealt in was used to make a respectable showing of nominal assets in the schedules filed in bankruptcy cases.

PACKING PAPER.—Packing paper may be made water-tight by dissolving 1·82 pound of white soap in one quart of water, and dissolving in another quart 1·82 ounce (apothecaries' weight) of gum arabic and 5·5 ounces of glue. The two solutions are to be mixed and warmed, the paper soaked in the mixture, and passed between rollers or hung up to dry.—*Jour. Frankl. Inst.*, August, from *Fortschr. der Zeit.*

APPROVED BY THE CLENGY.—The Southern Committee of the Church of England Temperance Society have turned their attention to the production of a substitute for alcoholic liquors and of a superior class of temperance drinks, and although they are unable officially to undertake the work, the result has been the creation of a "National Temperance Beverage Company (Limited)"—a small private company that has purchased "Larmuth's patents," and will introduce the new beverages in a few days.

OPIMUM AND THE INDIAN FAMINE.—In his reply to the Society of Friends the Chinese Ambassador refers to the present famine in India, attributing it to so much land being devoted to the cultivation of the poppy. In reference to the extent of land upon which the poppy is grown, a correspondent of the *Times* ("T.") states that in 1872-73, 560,355 acres in Bengal produced 42,675 chests of opium. To this must be added the acreage of the land in Malwa, which produced in the same year 43,542 chests, which, in the same proportion, would amount to about 571,740 acres. It appears, therefore, that 1,033,000 acres of the most fertile land in India is devoted to the growth of the poppy.

ACCIDENT IN MIXING CHEMICALS.—On September 15 Mr Henry Lloyd, a chemist, at Richmond, Surrey, was preparing materials for a red light, to be used at the Richmond Theatre, on the same night, in "a fire scene." Mr. Lloyd was mixing some chlorate of potash and sulphur, or sulphate of antimony, and, using too much friction, the chemicals suddenly exploded. The unfortunate gentleman, who was frightfully burnt about the head and face, was at once removed to the Richmond Infirmary, where his injuries were attended to by one of the visiting medical gentlemen.

AMATEUR PRESCRIPTIONS.—A druggist recently received the following prescription, copied from a "Doctor Book":

	Grains
Lactate of iron	12
Citrate of iron	12
Strychnia	12
Sulphate of quinine	12

Make 12 powders. Take one every four hours.

The only mistake consisted in writing the "citrate of iron and strychnia" on two lines and leaving out the "and." A suspicion in the mind of the druggist that 1 grain of strychnia was "too big" a dose, was all that prevented a funeral.

PROCTOR'S MEASURES are, after all, not infallible, and a grievous, not to say fatal, mistake may be made under the very nose of the latest approved. A lady lately entering the establishment of a chemist and druggist, picked up one of Proctor's measures from the counter, and, examining it carefully, at last fixed her eyes on the following, and read:—

REGISTERED

JANUARY 1ST, 1877.

1 dr. to Lower Rim.

Turning the measure over and over, sticking her finger into it as if to gauge its depth, and being again reassured by seeing "1 dr." stamped on the bottom, she at last exclaimed, "Dear, me! does that only hold a drop? I had no idea a drop was so large!"

ARTIFICIAL IVORY.—Two new processes for the manufacture of artificial ivory have recently been published in France. The first consists in dissolving two parts of pure indiarubber in 36 parts of chloroform, saturating the solution with pure ammoniacal gas, distilling off the chloroform at 165° Fahr. The residue is mixed with phosphate of lime or carbonate of zinc, pressed into moulds and dried. When phosphate of lime is used, the product is said to possess in a remarkable degree the peculiar composition of natural ivory. The second process involves the use of *papier mâché* and gelatine combined. Billiard balls of this substance cost about one-third the price of genuine ivory balls, and are claimed to be quite as hard and as elastic as the latter. They may be thrown from high elevations upon pavements without injury, and will withstand heavy blows with the hammer. The composition is known as Paris marble, and may be used for raised ornamentation of ceilings, or prepared so as to imitate fine varieties of marble.

Trade Notes.

THE FIRM OF EVANS, MERCER & Co., wholesale druggists, Montreal, Canada, has now been reconstituted under the style of H. Sugden Evans & Co., Mr. Nathan Mercer and Mr. Haldane Haswell having now no connection with it. Mr. H. Sugden Evans, who has now taken up his residence in Montreal, continues the business, and will be assisted in the management of it by Mr. Albert H. Samuel, who has been for some years at the head of the export department at Evans, Sons & Co., Liverpool. The Toronto agency will be continued as heretofore by Messrs. Pearce & Harvey.

ALMONDISED COD LIVER OIL.—This is good cod liver oil flavoured with oil of bitter almonds. The taste of the cod liver oil is better covered by this means than by any other that we have seen tried, and we can testify from experience that this preparation is more easily taken and retained by delicate persons than any we know of. Of course the flavouring medium has been deprived of its prussic acid. This is, perhaps, important to some very reckless tipplers of cod liver oil. The almondised oil is prepared and sold by Messrs. Leslie, of Walbrook, London.

WE HAVE RECEIVED a sample of Umney's Fluid Extract of Cinchona, a preparation which is pharmaceutically worthy of the valuable medicine which it represents. Mixed with water it yields a more uniform preparation than the decoction freshly prepared is likely to be, and its aroma is perfect. The extract is prepared from E. I. cinchona, which is less variable than the Calisaya. It is more alcoholic than the B. P. product, and is of a more reasonable strength, Umney's having the convenient ratio of 1 fluid ounce representing 1 ounce bark.

MESSRS. WYLEYS & Co., of Coventry and 223 Upper Thames Street, have sent us specimens of some new labels they are using for vessels and packages of drugs. Each label bears the registered trade mark of the firm, the "triple spires" surrounded with the motto "Vobis eadem bona quæ nobis," which we presume may be freely translated that the interests of the firm and of its customers are identical. The chemical notation, with the characters and tests, and the dose are also given, and in the case of poisons the most simple and accessible antidote. The design is good and artistic, but the names of the drugs would be more readable if they were printed on a pink or yellow base rather than blue, which is the colour Messrs. Wyleys have chosen.

CHEMISTS who want to do a good winter trade should now replenish their stock of chest protectors, respirators, and such-like goods. The exhibition of a supply of these goods helps wonderfully to create a demand. A person might live a hundred years without the thought occurring that a chest pro-



pector or a respirator was a necessary adjunct to his or her scaffolding, but let the articles be prominently before such person for a week or two and the luxury will soon seem to be a necessity. Readers will notice that Messrs. Lynch, Pattison, and Bourne & Taylor are advertising price lists of these goods in this number of our journal. We illustrate here a very useful counter show-case, which the last-named firm gives free with a certain order for respirators. It is a well-made mahogany case, with sloping glass front, hinged back and sliding tray.

HENRY DAUBENY BRANDRETH, Great Charlotte Street, Liverpool, has filed a petition in the Birkenhead County Court for liquidation of his affairs by arrangement. The petitioner is well known as an agent for the sale of patent medicines. It is understood that Mr. Brandreth's liabilities are about 30,060*l.*, unsecured, but the greater portion of this indebtedness is due to American creditors.

Obituary.

BADCOCK.—On September 3, 1877, Mr. John Badcock, pharmaceutical chemist, Barnard Castle, Durham. Aged 54 years.

DAINES.—On August 13, 1877, suddenly, Mr. Thomas Daines, Pharmaceutical Chemist, King William's Town, Kaffraria.

DAVIES.—On September 23, 1877, Mr. William Davies, Chemist and Druggist, Brynmartin. Aged 28 years.

HARGREAVES.—On September 27, 1877, at Castle Gate, Clitheroe, Mr. Robert Hargreaves, chemist and druggist. Aged 58 years.

KNOWLES.—On February 9, 1877, Mr. William Knowles, chemist and druggist, Thorne, Yorkshire. Aged 81 years.

MAKINSON.—On September 30, 1877, Mr. Thomas Makinson, Chemist and Druggist, Southport.

ROAKE.—On August 14, 1877, Mr. Joseph Roake, chemist and druggist, Shillington, Bedfordshire. Aged 61 years.

SWIRE.—On September 11, 1877, Mr. George Swire, pharmaceutical chemist, Brixton Hill, Surrey. Aged 55 years.

PROFESSOR ALPHONSO OPPENHEIM, well known as a worker in organic chemistry and Professor of Chemistry at Berlin, recently committed suicide at Hastings through grief at the death of his wife.—On the same date (September 17) W. H. Fox Talbot, F.R.S., the well-known inventor of the Talbotype, died at the age of 77.—On September 23 M. Leverrier, the celebrated astronomer, died at the age of 66, on the thirty-first anniversary of his discovery of Neptune. Thirty-eight years ago he published his first astronomical papers on the secular variations of the orbits of the planets.

MR. W. V. WRIGHT.

WE regret to announce the death of Mr. William Valentine Wright, one of the best known wholesale druggists in London, the head of the firm of Wright, Layman & Umney. Mr. Wright was on a tour through Scotland, and was staying at the Royal Hotel, Dundee. Until within a day or two of his death he was in robust health, but a cold in the face developed into erysipelas, which attacked the brain and rapidly proved fatal. The death occurred on September 17, Mr. Wright being only 51 years of age.

The deceased gentleman was first trained to the drug trade in the establishment of Messrs. Grimwade, Ridley & Co., of Ipswich. He afterwards came to London and was one of the many successful men who passed a portion of their life in the well-known pharmacy of John Bell & Co., Oxford Street. There he became acquainted with Mr. Geo. B. Francis and subsequently the two united in establishing a wholesale drug business at Fish Street Hill. Mr. Francis in time joined the firm of Hearon, McCulloch & Squire, the style of which was altered to Hearon, Squire & Francis; and Mr. Wright conducted his business himself. A large proportion of our country readers will retain a pleasurable remembrance of Mr. Wright's capacity, energy, and genial manner when "on the road." Some years ago the premises in Fish Street Hill were required by the City authorities, and Mr. Wright received 15,000*l.* compensation. He built several very fine warehouses in Southwark Street, and it will be remembered that the one he once occupied was burned down to the ground a year or two ago. Recently two other gentlemen, Messrs. Layman and Umaey, have been introduced into the firm, and they will now conduct the business under the same style as heretofore, a son of Mr. Wright being already in the concern. Mr. Layman is generally in the provinces, while Mr. Umney superintends the laboratories and business at home.

Besides his drug business, Mr. Wright was very successful with his "coal tar soap," a business which is quite separate from the other, and which he leaves to his representatives.

Mr. Wright's personality was sworn under 44,000*l.*



[The following list has been compiled expressly for THE CHEMIST AND DRUGGIST by G. F. Redfern, Patent Agent, successor to L. de Fontaine-morean & Co., 4 South Street, Finsbury, London; and at Paris and Brussels.]

Provisional Protection for six months has been granted for the following:—

2993. J. Mason, of Eynsham Hall, near Witney, Oxfordshire. Improvements in the treatment of certain residues resulting from the production of sulphuric acid. Dated August 6, 1877.
3086. I. W. Lister, of Merfield Street, and A. E. Shepherd, of Mitchell Street, Rochdale, Lancashire. Improvements in apparatus for tilting and emptying vessels containing liquids. Dated August 14, 1877.
3087. C. Morfit, of Baltimore, United States, consulting chemist. Improvements in the manufacture of vegetable and animal food preparations. Dated August 14, 1877.
3096. G. Fournier, of 42 Boulevard de Strasbourg, Paris, chemist. Improvements in the manufacture of agents for the purification of sewage, and for other purposes. Dated August 14, 1877.
3151. J. Frost, of Hindersfield, Yorkshire, manufacturing chemist. Improvements in treating the residuum or precipitate obtained in the purification of sewage. Dated August 18, 1877.
3162. K. Knott, of 4 South Street, Finsbury, London. Improvements in dry air refrigerating and in apparatus therefor, applicable to railway carriages and ships' storerooms, and other stationary refrigerators, for the transportation and preservation of meat and other perishable articles. Dated August 20, 1877.
3174. J. Riley, of 5 South Crescent Chambers, Liverpool. Improvements in the manufacture of salt cake and black ash and alkaline carbonates, and in furnaces and apparatus therefor. Dated August 21, 1877.
3182. K. Knott, of 4 South Street, Finsbury, London. An improved method and apparatus for preparing and preserving meat for transportation and storage. Dated August 21, 1877.
3186. F. J. Chevet, of Paris, merchant. Improvements in the preparation of concentrated food. Dated August 21, 1877.
3193. W. Wilkinson, of Gower Street, Bedford Square, London. Improved appliances to be employed for holding bottles and other vessels whilst being filled with liquid. Dated August 22, 1877.
3203. J. Mason, of Eynsham Hall, near Witney, Oxfordshire. Improvements in the treatment of certain residues resulting from the production of sulphuric acid. Dated August 23, 1877.
3212. R. George, of 22 Alma Street, Kentish Town, London. A new or improved method of making up and combining soap or other cleansing matters, with other materials to be used for washing and cleansing purposes, and in the means, machinery, and apparatus employed for the purpose. Dated August 23, 1877.
3229. D. McKechnie, manufacturing chemist, and W. Geates, analytical chemist, both of St. Helen's, Lancashire. Improvements in the manufacture or purification of sulphuric acid, and in the obtaining of an arsenical compound therefrom. Dated August 25, 1877.
3244. N. Thompson, of Brooklyn, United States. Improvements in stoppers for bottles, jars, and other hollow articles. Dated August 27, 1877.
3275. T. J. and J. G. Chapman, both of 19 Priory Street, Birkenhead, Cheshire. Improvements in or relating to bottling or stoppering harm, beer, and other fermented liquors, and in the stoppers applicable for this and other kindred purposes. Dated August 28, 1877.
3278. J. Cooper, of Huddersfield, Yorkshire, innkeeper. Improvements in bottle stoppers, and in apparatus connected therewith. Dated August 29, 1877.
3281. A. J. Avenell, of Mansell Street, London, trunk and packing case manufacturer. An improved tin case. Dated August 29, 1877.
3283. G. J. Hutchings, of Rupert Street, Bristol, wine and spirit merchant. Improvements in the manufacture of spiced or flavoured vinegar, and in the apparatus used therefor. Dated August 29, 1877.
3296. H. Conrad, of 8 Lower James Street, Golden Square, London. An improved oil cup with syringe. Dated August 30, 1877.
3303. J. S. Nickell, of 176 Commercial Road East, member of the Royal College of Surgeons. Improvements in self-venting taps, and in self-acting means and appliances for preventing the entrance of air into casks and other vessels, after the removal therefrom of the taps or corks used to draw off the contents thereof. Dated August 30, 1877.
3319. E. Behner, of Cambridge Terrace, Islington, London, engineer. Improvements in encapsulating bottles and other like receptacles and in the apparatus or means employed therefor. Dated August 31, 1877.
3320. N. Rheinberg, merchant, of 13 Well Street, Falcon Square, London, E.C. An improvement in elastic fabrics for boots and shoes, and also for garters, belts, and surgical appliances. Dated August 31, 1877.
3355. H. Berlon, I. Fürstenhagen, and H. Wildt, agents, of Bradford, Yorkshire. Improvements in filters and the fittings connected therewith. Dated September 4, 1877.
3365. T. J. Alberdingk, of Amsterdam, Holland. Improvements in effecting the destruction of noxious vapours or gases, and in the apparatus or means employed therein. Dated September 4, 1877.
3369. T. Lewis and J. Hughes, both of Merthyr Tydvil, Glamorganshire. Improvements in stoppering bottles for containing aerated waters and other gaseous liquids. Dated September 5, 1877.
3374. H. Bolieter, of Foley Street, London. Improvements in the means and processes employed for treating and preserving animal substances for use as food. Dated September 5, 1877.
3387. E. P. Alexander, of London. Improvements in the manufacture of sulphate of alumina. Dated September 5, 1877.
3395. B. B. Standen, of Bradford, Yorkshire, manufacturing chemist. Improvements in the treatment of human excrement, both solid and liquid, and in the deodorising organic matter, and in the means or apparatus employed therein; part of such means and apparatus may be employed for treating sewage matter and filtering and deodorising sewage and other water. Dated September 6, 1877.
3398. G. C. Roberts, of New York. Improvements in refrigerating and in apparatus therefor. Dated September 6, 1877.
3426. E. J. Hobbs, of Ramsgate, Kent, draper. An improved apparatus for use in the treatment and cure of fevers and other diseases. Dated September 11, 1877.
3498. W. North, of Sheepridge, Huddersfield. Improvements in stoppers for bottles, and in the means of securing stoppers in bottles. Dated September 17, 1877.

Letters Patent have been issued for the following:—

827. G. du Vallon and J. Csete, both of Birmingham, engineers. Improvements in the process of freezing or refrigerating liquids, and in apparatus used therein. Dated March 1, 1877.
874. A. E. Harris, of Mile End Road, London, surgeon dentist. An improved compound, and mode of employing the same for dental and other purposes. Dated March 5, 1877.
846. V. Collyer, of the Highfields House, Leicester. Improvements in preserving raw meat, lard, and other fats, and in compounds or combinations of ingredients for the purpose. Dated March 2, 1877.
919. A. R. Doyle and F. H. Stubbs, both of Leeds. Improvement in the means or apparatus employed for corking and uncorking bottles, jars, and other vessels. Dated March 7, 1877.
946. T. Bresson, of Junas, France. Improvements in stoppers for bottles, and in the means of securing them. Dated March 9, 1877.
1059. T. G. S. McCarthy, of 12 Montpelier Row, Brompton, London. Improvements in invalid beds, couches, and chairs. Dated March 16, 1877.
1150. E. Carless, of Hackney Wick, London, chemist. A new or improved method of and apparatus for filling casks and other vessels with liquids. Dated March 23, 1877.
1181. T. F. Lynch, of 171A Aldersgate Street, London, dealer in druggists' sundries. Improvements in the construction of certain parts of the apparatus known as infants' feeding bottles. Dated March 26, 1877.
1203. M. Chapman, of 20 Knox Road, Clapham Junction, Surrey, miller. An improved method of and apparatus for preparing and treating flour for invalids, infants' food, and other useful purposes. Dated March 27, 1877.
1206. H. Falja, of Great Queen Street, Westminster, civil engineer. Improvements in apparatus for mixing dry powdered substances. Dated March 27, 1877.
1226. G. F. Redfern, South Street, Finsbury, London, patent agent. Improvements in refrigerators and refrigerating apparatus. Dated March 28, 1877.
1610. J. J. L. Bremond, of Paris. Improvements in apparatus for administering medicated baths. Dated April 25, 1877.
1618. F. W. Kalbdeisch, of Brooklyn, United States. Improvements in concentrating sulphuric acid, and in the apparatus used therefor. Dated April 25, 1877.
1835. L. Loewenthal, of Elgin Road, St. Peter's Park, London. Improved combinations of materials for the manufacture of gases for extinguishing fire, for purifying noxious air, gas, or vapour, also for preserving food and other substances, and in apparatus to be used in part therewith. Dated May 11, 1877.
2106. J. H. W. Biggs, of Mason's Buildings, Liverpool. Improvements in apparatus for the manufacture of common salt and carbonate of soda, and for packing salt and other substances, and for regulating the density and temperature of liquids. Dated May 30, 1877.
2703. A. C. Hempel, of 108 Kennington Road, Surrey. Improvements connected with pin fasteners and springs for artificial gums and palates. Dated July 13, 1877.

2781. C. S. Gorman, of Irvine, Ayrshire, chemist. Improvements in the manufacture of chromates of potash and soda. Dated July 21, 1877.

Specifications published during the month:—

Postage 1d. each extra.

1876.

4826. F. Maxwell-Lytle. Production of anionous anhydride. 4d.

1877.

357. D. McFarlane. Purifying or treating alcoholic liquids. 6d.
 391. W. Brooke, jun., W. King, and R. Nuuns. Bottles, &c. 6d.
 398. H. Lange and C. Mohr. Bottles, jars, &c. 6d.
 499. N. B. Cook. Manufacture of bleaching powder. 2d.
 508. T. F. Henley. Apparatus for the saccharification of grain for the distillation of spirits, &c. 6d.
 509. W. Martindale. Apparatus for inhaling medicated vapour, &c. 2d.
 519. T. Cockerott. Syruping, filling, and corking machine for bottling aerated liquids. 2d.
 528. E. Perrett. Filters. 6d.
 559. J. P. Clarke. Apparatus for measuring oils, &c. 2d.
 571. J. T. Whittaker. Instruments for facilitating labour in women. 2d.
 596. P. C. Bunn. Pigments. 2d.
 607. Band, J. W. Kilner. Tool for forming necks of bottles. 2d.
 613. W. Betts. Apparatus for capsuling bottles, &c. 6d.
 644. R. Little. Preserving food. 2d.
 666. D. McFarlane. Treating alcoholic liquids. 6d.
 674. M. E. Savigny and A. C. Collineau. Vegetable colouring matter. 4d.
 675. J. Dolhaiser. Decanting and drawing off wine, beer, &c. 2d.
 679. H. Holt. Machine for disintegrating oil and other seeds. 6d.
 697. D. B. Hewitt. Utilising the sulphur contained in vent or soda waste. 2d.
 750. G. Duerr. Liquid preparation of black lead. 4d.
 757. J. Howison. Treating aluminous substances, &c. 4d.
 820. E. A. Parnell. Manufacture of metallic zinc and sulphuric acid. 2d.
 2251. S. Pitt. Utilising the bisulphide of carbon and glycerine for the production of motive power, &c. 4d.



LIQUIDATIONS BY ARRANGEMENT OR COMPOSITION.

Notices of first meetings of creditors have been issued in re the following estates. The dates are those of the "London Gazette" in which the notices first appeared.

- AARONSON, ANDREW, 77A Whitechapel Road and 31 Gracechurch Street, dentist. September 18.
 CROSSLEY, JAMES WILLIAM, Adwalton, Birstal, Yorkshire, manufacturing chemist. September 26.
 CUTBERTSON, WILLIAM HARRISON, Pentre, near Pontypridd, Glamorgan-shire, surgeon. October 2.
 DEAN, MICHAEL HOLLOWAY, Bntc Street, Cardiff, chemist. October 1.
 McDONOUGH, WILLIAM RICHARD, Nelson Place, late Northampton Place, Swansea, surgeon dentist. September 29.
 NAYLON, FRANCIS, Waterclough, Southowram, Hinfax, manufacturing chemist. September 24.
 STEVENS, ROBERT, trading as Robert Stevens & Son, 9 Wharf Street, and the Wharf, late 34 New Park Street, all Devizes, coal merchant and aerated water maker. September 26.
 SUMMERBY, JAMES, Workington, hosier. October 6.
 TUSTIN, JOHN, North Bar Street, Banbury, soda water manufacturer. September 7.

DIVIDEND.

DORAN, JAMES (bankrupt), Gravesend, staff-assistant-surgeon. Dividend 8s. 8d. to new proofs only. P. Paget, Bankruptcy Court, Lincoln's-inn-Fields.

PARTNERSHIPS DISSOLVED.

- ALEXANDER & HAMILTON, Castle Street, Leicester Square, soda water manufacturers.
 BARON, KENYON & CO., Accrington, oil merchants, so far as regards Thomas Pickles.
 BARRATT & SHORTRIDGE, Oldham, soda water manufacturers.
 BENNETT & WALLACE, Checkheaton, surgeons.
 BOTT & BOTT, Bury, surgeons.
 COX & GOULD, Chicksand Street, Whitechapel, chemists.
 CRESSY & MOGEN, Carebalton, surgeons.
 DRACON & BARNARD, Milkwood, Brixton, chemists.
 DRUMMOND & SEQUEIRA, Leman Street, Whitechapel, surgeons.
 GREEN, GREEN & CO., Bedford, manufacturers of carbolic disinfectants.
 HORNER & NAYLON, Hinfax, chemists.
 NEWITT & FRISBY, Leicester, aerated water manufacturers.
 REDFERN & JOHNSON, Ashby-de-la-Zouch, chemists.
 ROBBINS & PEPPER, Gibraltar Walk, Bethnal Green, chemists.
 STEPHENSON & WHITTAKER, Bradford, horebound beer manufacturers.

EXCHANGE COLUMN.

TERMS.—Announcements are inserted in this column at the rate of one halfpenny per word, on condition that name and address are added. Name and address to be paid for. Price in figures counts as one word.

If name and address are not included, one penny per word must be paid. A number will then be attached to the advertisement by the Publisher of THE CHEMIST AND DRUGGIST, and all correspondence relating to it must be addressed to the "Publisher of THE CHEMIST AND DRUGGIST, Colonial Buildings, Cannon Street, London, E.C.," the envelope to be endorsed also with the number. The publisher will transmit the correspondence to the advertiser, and with that his share in the transaction will cease.

FOR DISPOSAL.

- 107 *Pharmaceutical Journals*, 1873-75, 10s. 18/79.
 12 Dunn's everlasting pills, 2s. 9d.; 22 ditto, 1s. 1½d.; clean. To be sold cheap. Paget, Chemist, Loughborough.
 Siebold's herbarium, 15s. F. Saunders, West Gorton, Manchester.
 Surplus stock of mortars, pestles, funnels, and evaporating dishes. Cheap. 21/79.
 Smith & Beck's Monocular Microscope, with four objectives, cheap. 22/22.
 White hampers, 18 in. by 13 in. by 10 in., nearly new, 8s. 6d. doz., sample 1s. Nicholson, Lindley, Huddersfield.
 New 18-inch Gladstone travelling bag, in exchange for "Bentley's Botany" and part cash. 2/80.
 New coil, with regulator battery and handles, complete; price 24s. H, 3 Victoria Street, Triangle, Hackney.
 Great Bargain.—12-gallon new copper soda-water cylinder, 4l., cost 8l. Lea, Folkestone.
 Muter's "Chemistry," price 6s., nearly new. Address P. W., 32 Old Steine, Brighton.
 Taunus mineral water, 50 quarts, 20s.; 100 pints, 32s. 37 Milton Street, Newcastle-on-Tyne.
 Enema, mahogany case, 15s.; another, 10s.; price 1l. for the two. R., Vicarage, Atherstone.
 Handsome poodle dog for sale, very small, pure white, black nose, black eyes. Walker, 13 Armfield Row, Dundee.
 New 5-grain pill machine to cut 12, marble slab, best make. Offers to Royse, Heatou Chapel.
 Case homeopathic globules, forty-eight bottles, 15s.; one of twenty-four, 10s.; one of six, 5s.; books, 6d. R., Vicarage, Atherstone.
 Materia Medica Cabinet, by Evans & Lescher, containing 185 specimens in good condition; price 32s. Apply, J. W. Gill, 67 Broad Street, Pendleton.
 Exchange for a 4 guinea Leath & Ross horn case, equal to new, tooth instruments, 3 and 5-gr. reversible pill machine. Address, "Post Office," Northwood, Stoke-on-Trent.
 A few lots of fine Tinnevelly senna, 4d. lb. in 14 and 28-lb. lots. Send stamp for sample to A. Smith, Crediton, Devon.
 Very useful to a chemist, a printing press, with type, case, ink, roller, slab, composing stick, &c., can be used on a table. Gadsby, 30 Chetwynd Terrace, Meadow Road, Leeds.
 Flat counter case, plate glass, ebonised, as fig. 98 Maw's, seven feet long, 21 inches wide, 7 inches deep, 6l., or offers. Storey, Chemist, Hull.
 Eyans & Lescher's 7l. 7s. Materia Medica Cabinet for 4l. 10s., new and in perfect condition. Roberts, Chemist, Pont-lotyn.
 Tincture press and root cutters, low prices. M. Morton, 28 John Street, Bedford Row. Also beautiful carboys, with ornamented cut stoppers.
 Small lot Row & Dowling's unbreakable combs, cost 10s. 10d., offered in part exchange for a 4-grain pill machine, or anything useful. 17/80.
 Four cwt. nux vomica, 32s. the lot; a disintegrator, by Carter Brothers, Mark Lane, cost 25l., will be sold for half, never been used. 3/75.
 "Principia Latina," 1s. 6d.; "Primer," 1s. 3d.; "Grammar," 1s. 3d.; "Mason's "Self Knowledge," 2s. (published at 10s. 6d.). J. R., 37 Milton Street, Newcastle.
 Atfield's "Chemistry," Fresenius' "Qualitative," last editions; platinum crucible and cover, 200 grains, other chemical apparatus. 38/80.
 Set of eight tooth forceps, 20s.; two tooth keys, with extra claws each, 6s., cheap. "Dentist," 344 Great Horton Road, Bradford.

- Cheap, six 3-gallon carboys, cut stoppers, height, 22 inches; six cylindrical carboys, 19½ inches high. Offers wanted. Heal, Chemist, Old Market Street, Bristol.
- Sundry jars, blue, white; marble mortar; specie jar; dentist's show case; several founts type; small amateur printing press. Barton, Chemist, Norwood—Fergusson's Surgery.
- Student's herbarium of the officinal and other leading indigenous plants (120) mounted and named, 10s. 6d.; Dean's portable copying press, 6s. 6d. Tully, Chemist, Tunbridge Wells.
- Surgery, complete fittings, including fixtures (complete in themselves), stoppered bottles, &c., and necessary appliances, no use to present owner, sell cheap. Maitland, Stonehouse, Plymouth.
- Ext. sarzæ liq., urgent nit., ext. opii, oleum cassia, liq. opii (Battley), tinct. arnica, aconiti, ext. cinchonæ, fluid; offers, or good exchange in drugs, patent medicines. Send list. 26/81.
- Eight dozens spectacles, 5 doz. to retail at 6d., focal numbers, 1 to 30; 3 doz. to retail at 1s., focal numbers, 5 to 14. Offers wanted, samples sent to any address. Address, Wilton, Chemist, Runcorn.
- Sheep ointment machine, by Gibson, large size, with pulley and fly wheel for steam or hand power, price 10l. 10s.; also large handsome bell-metal mortar, weight 56 lbs.; offers wanted. Stewart, Chemist, Grantham.
- Capital central-fire breachloader, finest Damascus barrels, treble proof, best steel locks, double grip, 12 gauge, excellent shooter and unsoiled, cost 10l.; price 5l. R. Halford, Chemist, New John Street, Birmingham.
- "Year-Book of Pharmacy," 1870 to 1876, seven volumes for 21s.; Salmon's "Translation of the London Dispensatory," 1676, in fair condition; offers requested. T. Colton, Selby.
- A surplus stock of corks, taper vials, finest quality, 5d. per gross; Daffy's taper and straight, 4½d.; wines, 7d. and 9d.; ginger beers, 4d.; quantity limited. Address, H. Pearsall, 331 Lodge Road, Birmingham.
- Entire stock of a wholesale druggist, consisting of about three tons of drugs, chemicals, sundries, medicated lozenges, essential oils, finest cod liver oil, &c.; list on application. Lloyd Rayner, 333 Kingsland Road, London, N.
- Harley's binocular microscope, with accessories, cost 15l.; price 10l.; binocular, by Smith & Beck, cost 50l.; price 35l.; nearly new; Lee's telescope and microscope, in mahogany box; 20l. 11 Eagle Parade, Buxton, Derbyshire.
- Five volumes *Pharmaceutical Journal*, 1870 to 1875, neatly bound; 14 volumes Blackie's "Popular Encyclopædia," latest edition, new, 4s. and 3s. each vol. Thomas, 8 Arthur's Terrace, Acland Road, Sydenham.
- Six lbs. aperient lozenges (greengage paste, scammon resin gr. j, colomet gr. ½), 3s. lb.; 16 doz. ¼-oz. male syringes at 10d.; gallon chloralum, 2s. 9d.; gallon Condy's red fluid, 4s. 9d. Throssell, Chemist, Cambridge.
- Handsome chest polished mahogany drawers, containing 70, and with running doors beneath for bottles, together about 11 feet by 4½ feet, 12l. 12s.; also 2 bell-metal mortars, weighing about 50 lbs. and 4½ lbs. Offers for the lot. All only in use 2½ years. Fairweather, Alexandra Road, Hull.
- The advertiser offers one of Southall's 30s. *Materia Medica* Cabinets, containing about 150 specimens, at half price; also about 120 mounted botanical specimens, 7s. 6d. "Associate," Mr. Taylor's, Chemist, Saltburn-by-the-Sea, Yorkshire.
- A Collection of Questions asked at the Minor, 2s. 6d.; "Notes on Dispensing," with prescriptions given to dispense at the Minor, 2s. 6d.; herbarium of indigenous plants, invaluable to Minor students, 7s. 6d.; "Notes on Equation Writing," 9d. "Chemist," care of Mr. Fitness, Rotherfield.
- Very useful iron safe, with inside drawer, height 20 inches, width 15, depth 14, being too small for stock of stamps, cards, and wrappers required for postal service, the advertiser having been appointed postmaster, lowest price 2l. 10s. Fredk. Gibson, Chemist, Post Office, Gooch Street, Birmingham.
- One dozen fresh indigenous medicinal plants, named and carefully described, forwarded by return, carriage paid on receipt of order for 5s.—aconite, belladonna, stramonium, hyoscyamus included; also thirty prescriptions given to dispense at the Minor during the last twelve months, with their *modus operandi*, free for 2s., by James Saunders, A. P. S., 79 Gnisford Street, N.W.
- Two 70-gallon petroleum cisterns; *The Chemist and Druggist* for 1873, 74, 75, 76; offers wanted; 6 dozen pomades, first-class maker, for half retail price; small number of stoppered rounds, cheap. Lindsey, Rochdale.
- 14 years *Leisure Hour*, monthly parts, 2d. per part; thorough good 7-octave tricolor pianoforte, by Kirkman, 35l.; two mahogany photo cameras and lens, cheap. Wynter, Seaford, Sussex.
- Fownes' "Chemistry," 9th edition, 6s.; Turner's "Chemistry," 2s.; Wilson's "Chemistry" (Inorganic), 2s.; Church's "B.P. Process," 1s.; Thomson's "Conspectus," 1s.; Bentley's "Botany," 6s.; Withering's "Botany," 4 vols., 7th edition, offers desired for this valuable work, as also for "Pharmacopœia Officinalis Extemporanea," by Quincy. J. R., 57 Milton Street, Newcastle-on-Tyne.
- Twelve feet of polished gold-labelled drawers, lockers beneath, and bottles and jars above; 8 feet of cupboards, with bottles and jars above; good counter, mahogany top; scales and weights; glass case, 2 feet 2 by 2 feet; mahogany desk, window enclosure; carboys, and every requisite for a chemist's shop, price for the whole (which were new two months ago) 60l., or with stock, price 100l. Apply, G. Beall, Chemist, Spring Bank, Hull.
- "The Family Homœopathist," 4th edition; "The Chemist and Druggist Compendium," Attfield's "Chemistry," 4th edition; Sutton's "Volumetric Analysis," 2nd edition; Fownes' "Chemistry," 10th edition; Royle's "Materia Medica," 5th edition; Squire's "Companion," 8th edition; Linley's "School Botany," 13th edition; "Free Phosphorus in Medicine," by Ashburton Thompson; offers wanted. F. Marchant, Blandford.
- A 6 ft. 6 in. plate-glass counter-case, as Maw's 105, 8l.; a ditto ditto, 5 ft. 8 in., 7l.; a 5 ft. 9 in., as fig. 98, 5l.; a 5 ft. 11, as Maw's 99, 6l. 10s.; a 3 ft. 6, as fig. 22, 70s.; two 3 ft. 6 long bent plate-glass cases, 12 in. wide, fitted with trays, 3l. each; a 3 ft. 2 ditto ditto, 12 in. high, 16 in. wide, 70s.; a 3 ft. 6, as No. 16, 55s.; a 3 ft., as No. 16, 48s.; also a number of smaller sizes of all patterns. E. Natali, 213 Old Street, London, E.C.
- A 7 ft. dispensing screen, with shelves at back for bottles, glass case at each side, looking glass centre, with marble slab in front, looking-glass backs to cases, and shifting shelves inside, on top surmounted by handsome tablet and fretwork, 9l., a bargain, all plate glass; a ditto ditto, 6 ft. long, 8l. 10s.; a 5 ft. 2 in. bent plate-glass counter-case, 15 in. high at back, 23 in. wide at bottom (one sheet of glass), looking-glass back, glass sides, fitted inside with plate-glass shelves, with polished edges and velvet-lined trays, 8l. 10s., worth 20l. E. Natali, 213 Old Street, E.C.
- Two mahogany shop chairs, 16s. each, in first-class condition; a 7 ft. 6 upright case as fig. 165, looking-glass back, 8l.; a 6 ft. ditto, as 164, 7l.; a 4 ft. 9 ditto, as 164, ebonised back, 4l. 10s.; two 3 ft., as 163, without tablets on top, 70s. each; also one ditto, with looking-glass back, plate-glass shelves, with polished edges, 4l. 10s.; an upright glass case to stand on floor in front of counter, 4 ft. long 3 ft. high, 12 in. wide, with marble top, 4l. 10s.; a wall case, 5 ft. 6 long, 3 ft. 11 high, 8 deep, 3 plate-glass doors, shifting shelves, 6l. E. Natali, 213 Old Street, E.C.
- 4 ft. long, 5 ft. 9 long, 6½ ft. long, handsome mahogany dispensing screens, as 40 and 164 Maw's; 2 ft. long plate-glass show-case and desk, with mirror back and plate-glass shelves, as Treble's 76; 2½ ft. long plate-glass show case and desk, as 39 Maw's; 2½ ft. long upright screen, with glass panel, written in gold—"Prescriptions Carefully Prepared," with desk attached; 30 flat and bent mahogany counter cases, all sizes; 650 mahogany-fronted gold-labelled shop drawers, in nests, from 2 ft. to 20 ft. long; 18 mahogany wall cases, from 2 ft. to 20 ft. long; 18 handsome mahogany-top counters, from 3 ft. to 26 ft. long; the entire fittings of several chemists' shops, including counters, drawers, window enclosures, silvered and plate-glass embossed doors, show cases, wall cases, carboys, specie jars, &c.; Maw's 62 soda-water stand; eight 2-gall., four 4 gall., two 3 gall., four 8-gall., two 10-gall., one 14-gall. penr-shape show carboys; 18 handsome gold-labelled specie jars, royal arms, &c.; 28 handsome labelled jubbe jars; 1 doz. lozenge jars, with gilt covers; 1 doz. handsome cut glass vases, as fig. A Maw's; handsome shop lamp, as fig. 7 and 9 Maw's; pillar shop lamp, as fig. 15 Maw's. Lloyd Rayner, 333 Kingsland Road, London, N.



THE improving value of gold cannot fail to affect all other markets. During this month the Bank of England has advanced its rate of discount from 3 to 5 per cent, which was the rate current in January, 1876. It is to be feared that very little influence occasioning this is due to genuine commercial requirements.

The export returns for September again indicate a general depression of trade all round. The total value of our shipments for the month amounted to 17,095,426*l.* The previous September they reached 17,777,917*l.* The time of year has now arrived when we cannot hope for much improvement. The autumn shipping orders have not been so good as the most moderate anticipations fixed them at, and it is almost certain that we shall have to close another year with the evidence of a further decline in our national trade.

These remarks apply to all branches of trade. The chemical section is a marked instance. Though manufacturers are trying to come to some basis of agreement in order to check any further decline, the prices of their products seem to gravitate hopelessly downwards. All the soda productions are this month again fractionally lower. The same remark applies to the potash salts. Citric acid is almost unnoticed, and is now quoted at 2*s.* 4*d.* Tartaric acid is also a shade cheaper, and French cream of tartar has been sold in several instances lately below 5*l.* per cwt. Quicksilver has been reduced to 7*l.* 5*s.*, but advanced again to 7*l.* 15*s.*, at which price it stood last month. The camphor speculators hold their stocks as firmly as they can, but with little eagerness to buy they have had to submit to a decline. The price of the chief brands of quinine is maintained with a good deal of per-istency, but the difference is at this moment almost too great to pay for a label. Howard's price is nominally 12*s.*, and Pelletier's 11*s.* 3*d.*; but excellent products are bought and sold daily in quantity at 10*s.* or a trifle over. The barks for quinine-making, though not declining rapidly, are appreciably cheaper; and with cinchonidine in growing favour among large contractors, we cannot anticipate a renewal of the high prices of last spring. Iodine is dull, and the nominal quotations are not obtainable. The price of iodide of potassium has been slightly reduced. Makers of carbonate of ammonia and liquor ammoniac have advanced their prices, and this is the one exception to the downward tendency of chemicals during the month.

The accumulating stocks of opium, and the tolerable assurance of a good supply, have led to considerably lower prices being accepted, as we have all along anticipated. The present quotations may tempt buyers, with the slight uncertainty which exists concerning the new crop, but we look for moderate prices throughout the winter. Tamarinds and Jamaica honey have made more money at recent sales; rhuaharb and senna are easier. Spanish saffron is also rather lower. Among sundry prices from late sales (of goods not quoted in our list) we may mention yellow blood albumen, 7½*d.*, black, 1*d.*; roll annatto, 9*d.*; Indian bael, 5*d.* (bought in); Condurango bark, 4*d.*; Calabar beans, 3*s.* 1*d.*; cowage, 5*d.* to 6*d.*; dragon's blood, 6*l.* 10*s.*; ergot of rye, 10*d.*; French garlic, 18*s.* per cwt.; fresh rose-leaves, 1*s.* 6*d.* per lb.; sandal wood (middling) 29*l.*; and foreign bees' wax from 6*l.* 10*s.* to 7*l.* 17*s.* 6*d.*

The October indigo sale passed off in buyers' favour, Bengal being 4*d.* to 6*d.* lower than previously.

Shellac has been brought forward in quantity, and the slight advance previously attained has consequently been practically lost.

Cochineal, after being quoted at about 4*d.* per lb. higher, has somewhat relapsed, but Honduras and Mexican still show an advance of about 2*d.* per lb.

Petroleum advanced soon after our last, and has been subject to frequent fluctuations since. At the moment it is to be bought at 1*s.* 0½*d.*, but it has touched quite 1*d.* beyond that, and 1*s.* 1½*d.* is about the price for forward purchases. Linseed and rapeseed oils are rather easier, but olive is higher and firm, though but very few transactions have occurred. Seal and cod are rather higher, but sperm is a trifle lower.

A bargain.—2 handsome show jars, single scroll pattern, ns Maw's fig. 23, 27 inches high without cover, new gilt glass covers, total height 34 inches, 5*l.* each or 9*l.* the two, including massive stands; also refrigerator, 28 by 22 inches, 2 taps, strongly made, good condition, price 3*l.* 156 Clapham Road, S.W.

A desk and case, ns fig. 21, 65*s.*; a sponge case, as 92, 5*l.*; Kent's tooth-brush case, 27*s.*; six 3-gall. carboys, 4*s.* 6*d.* each; twelve 3½-gall. ditto, 6*s.* 6*d.* each; two 4-gall ditto, cut stoppers, 9*s.* each; two 5½-gall. ditto, cut stoppers, with 2-in. mahogany stands, 34*s.* pair, complete; three 4-gall. cylinder ditto, 6*s.* each; one 3-gall. swan neck, 20*s.*; twelve 6-lb. pickle jars, with gold mouldings, burnished, new, 7*s.* 6*d.* each; twenty-four 4-lb. blue, new, with gold labels, 3*s.* each; 4½ doz. 3-lb. blue, new, with hand gold labels, 2*s.* 6*d.* each; 3 doz. 1½-lb. lilac, new, and labelled, 12*s.* 6*d.* doz.; fancy glass jars, as figs. A and D; jujubo jars; a pair specie jars, Royal arms, gold covers, 20 in. high, over all, 60*s.*, perfect; also several others; a 2-gall. tincture press, as fig. 2, 35*s.*; leech aquarium, 16 in. diameter, 10*s.*; iron evaporating dish, deep lip; filter, as fig. 1, new, 8*s.*; pill machines, 24 5-grain, 12*s.* each; mortars; 1 pair scales, ns fig. 7, 16*s.*; small pair dispensers, in box, glass pans, 8*s.* E. Natali, 213 Old Street, E.C.

WANTED.

Register of Chemists. Gardner, Hospital, Yarmouth.

The Chemist and Druggist, February, 1875, February and May, 1876, 300 High Holborn.

A large tincture press, hydraulic preferred; state price and size; must be in good condition. 5/79.

Pereira's "Materia Medica" and Squire's "Companion to P. B.," latest editions preferred. C, 9 Church Gate, Loughborough.

A phoenix, state size, condition, and lowest price, to Gare, Bampton, Devon.

Two sheet iron cisterns for paraffin oil, each holding 40 gallons. F. Saunders, West Gorton, Manchester.

A chemist shop front lamp, and pear-shaped carboy. Mather's fig. 1. Riley, Kimherley, Nottingham.

Flat plate-glass counter case, large size. Stables, Chemist, Bolton, Lancashire.

A nest of small drawers, with dark oak fronts, or deal that can be stained, height 3 feet 6, width 3 feet 8. G. Coulton, Sedburgh, Yorkshire.

Richardson's "Mechanical Dentistry," Harris's "Principles and Practice of Dentistry," Robertson "On Extractions," &c., dentist's lathe, tools, &c. A. P. S., 344 Great Horton Road, Bradford.

Complete case of dental forceps, circular jointed, good maker; also other modern instruments, in good condition, and double-ended lathe. "Dentist," 2 Foston Villas, Derwent Grove, East Dulwich, London.

FORMULÆ.

Formula for sauce; one of the best made; preferred to the Yorkshire; would make a good leading article anywhere, 5*s.* 13/80.

An eminent V.S. will forward prescriptions for colic draughts and cough powders for horses, 5*s.* each. Apply, R. H. Dyer, Glentworth Street, Limerick, Ireland.

Recipes for excellent lavender water and splendid cold cream, 1*s.* 6*d.* each, or 2*s.* 6*d.* the two; twenty well-tryed recipes for horse and cattle medicines, 5*s.* "Chemist," care of Mr. Filtness, Rotherfield.

A valuable recipe for scent, supplied to Her Majesty, price 1*l.*; also several forms, for toilet and proprietary articles, at 2*s.* 6*d.* each; list on forwarding stamped envelope to G. Williams, Mrs. Bennett's, Fore Street, Callington, Cornwall.

Furniture paste; very superior; cleans and puts a hnd gloss on polished or other furniture, &c., 2*s.* 6*d.* Baking powder, prize medal, 2*s.* 6*d.* The excellence of these preparations secure for them a large sale; profits good. 31/81.

PERSONAL.

Mr. Ratty—white-haired, of gentlemanly appearance, wife tall, suffers from rheumatism. Beal & Son, Chemists, Ilford.

Mr. O'Connor—surgeon's assistant, fair, light red hair, uses morphine acet. Beal & Son, Chemists, Ilford.

Mr. Hatchett—a tall, delicate man, with his wife, is probably stopping in the South of England. 32/142.

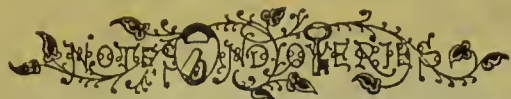
Monthly Price Current.

The prices quoted in the following list are those actually obtained in Mining Lanes for articles sold in bulk. Our Retail Subscribers must not expect to purchase at these market prices, but they may draw from them useful conclusions respecting the prices at which articles are offered by the Wholesale Firms.

CHEMICALS.		1877.	1876.
ACIDS—		s. d.	s. d.
Acetic	per lb.	0 2½ to 0 0	0 3½ to 0 0
Citric	per lb.	2 4 .. 0 0	2 8 .. 0 0
Hydrochloric	per ewt.	5 0 .. 7 0	4 0 .. 7 0
Nitric	per lb.	0 4½ .. 0 0	0 4½ .. 0 0
Oxalic	per lb.	0 4 .. 0 0	0 5 .. 0 5½
Sulphuric	per lb.	0 0½ .. 0 1	0 0½ .. 0 1
Tartaric crystal ..	per lb.	1 4½ .. 1 5	1 5 .. 0 0
powdered ..	per lb.	1 5 .. 0 0	1 5 .. 0 0
ANTIMONY ore	per ton	240 0 .. 300 0	280 0 .. 300 0
crudo ..	per ewt.	37 0 .. 0 0	42 0 .. 0 0
star	per lb.	48 0 .. 0 0	54 0 .. 56 0
ANSENIC, lump	per ton	25 0 .. 25 6	26 6 .. 27 0
powder	per lb.	8 3 .. 8 6	10 6 .. 0 0
BRIMSTONE, rough ..	per ton	110 0 .. 120 0	120 0 .. 130 0
roll ..	per ewt.	9 6 .. 10 6	10 6 .. 0 0
flour ..	per lb.	11 6 .. 13 6	13 6 .. 14 0
IODINE, dry	per oz.	0 9½ .. 0 0	0 6 .. 0 0
IVORY BLACK, dry ..	per ewt.	8 6 .. 0 0	8 6 .. 0 0
MAGNESIA, calcined ..	per lb.	1 10 .. 0 0	1 8 .. 0 0
MERCURY	per bottle	155 0 .. 0 0	160 0 .. 0 0
MINIUM, red	per ewt.	22 3 .. 0 0	23 3 .. 0 0
orange ..	per lb.	33 0 .. 0 0	37 0 .. 0 0
PRECIPITATE, red ..	per lb.	4 0 .. 0 0	4 1 .. 0 0
white ..	per lb.	3 11 .. 0 0	4 0 .. 0 0
PRUSSIAN BLUE ..	per lb.	0 0 .. 0 0	0 0 .. 0 0
SALTS—		s. d.	s. d.
Alum	per ton	140 0 .. 145 0	145 0 .. 150 0
powder	per lb.	155 0 .. 160 0	160 0 .. 165 0
Ammonia:			
Carbonate	per lb.	0 5½ .. 0 5½	0 5 .. 0 5½
Hydrochlorate, crude, white	per ton	560 0 .. 720 0	560 0 .. 700 0
British (see Sal Am.)			
Sulphate	per ton	420 0 .. 430 0	370 0 .. 380 0
Argol, Cape	per ewt.	75 0 .. 90 0	80 0 .. 87 0
Red	per lb.	67 0 .. 73 0	70 0 .. 75 0
Operto, red ..	per lb.	32 6 .. 33 0	33 6 .. 34 0
Sieli ..	per lb.	60 0 .. 65 0	0 0 .. 0 0
Ashes (see Potash and Soda)			
Bleaching powd. ..	per ewt.	6 0 .. 0 0	6 9 .. 7 3
Borax, crude	per ton	27 0 .. 38 0	30 0 .. 40 0
British refined ..	per lb.	40 0 .. 0 0	42 0 .. 43 0
Chlorel	per lb.	3 7 .. 0 0	3 8 .. 0 0
Copper:			
Sulphate	per ewt.	20 0 .. 20 6	21 6 .. 22 0
Coppers, green ..	per ton	55 0 .. 0 0	55 0 .. 60 0
Corrosive Sublimate p. lb.		3 0 .. 0 0	3 1 .. 0 0
Cr. Tartar, French, p. ewt.		99 0 .. 100 0	101 0 .. 0 0
brown ..	per lb.	90 0 .. 0 0	80 0 .. 85 0
Epsom Salts	per ewt.	4 3 .. 5 3	5 3 .. 7 0
Glauber Salts	per lb.	3 6 .. 4 6	4 6 .. 5 6
Lime:			
Acetate, white, per ewt.		11 0 .. 20 0	11 0 .. 20 0
Magnesia: Carbonate ..	per lb.	47 6 .. 0 0	45 0 .. 0 0
Potash:			
Bichromate	per lb.	0 3½ .. 0 4	0 4½ .. 0 1½
Carbonate:			
Potashes, Canada, 1st sort	per ewt.	24 0 .. 0 0	36 6 .. 0 0
Pearlashes, Canada, 1st sort	per ewt.	33 0 .. 0 0	26 0 .. 0 0
Chlorate	per lb.	0 8½ .. 0 8½	0 10 .. 0 0
Prussiate	per lb.	0 10½ .. 0 11	0 11½ .. 1 0
red ..	per lb.	0 0 .. 0 0	0 0 .. 0 0
Tartrate (see Argol and Crenm of Tartar)			
Potassium:			
Chloride	per ewt.	0 0 .. 0 0	7 0 .. 0 0
Iodide	per lb.	11 9 .. 0 0	7 9 .. 0 0
Quinine:			
Sulphate, British, in bottles	per oz.	12 0 .. 0 0	9 4 .. 9 6
Sulphate, French ..	per lb.	11 3 .. 0 0	9 6 .. 0 0
Sal Acetos	per lb.	0 7 .. 0 7½	0 7½ .. 0 0
Sal Ammoniac, Brit. ewt.		44 0 .. 45 0	44 0 .. 45 0
Saltpetre:			
Bengal, 6 per cent. or under	per ewt.	21 0 .. 21 9	19 0 .. 19 3
Bengal, over 6 per cent. per ewt.		20 0 .. 20 9	18 0 .. 18 9
British, refined ..	per lb.	25 0 .. 27 6	22 6 .. 23 6
Soda: Bleach, carbonate, p. ewt.		10 6 .. 10 9	11 0 .. 11 3
Carbonate:			
Soda Ash	per deg.	0 1½ .. 0 0	0 1½ .. 0 2
Soda Crystals per ton		77 6 .. 0 0	85 6 .. 90 0
Hypsulphite, per ewt.		0 0 .. 0 0	0 0 .. 0 0
Nitrate	per lb.	14 6 .. 14 9	11 6 .. 12 0
SUGAR OF LEAD, White ewt.		37 6 .. 38 0	37 6 .. 38 0
Brown, ewt.		26 6 .. 0 0	27 0 .. 0 0
SULPHUR (see Brimstone)			

1877.		1876.	
s. d.	s. d.	s. d.	s. d.
VERDIGRIS	per lb.	1 1 to 1 5	1 1 to 1 5
Vermilion, English ..	per lb.	2 10 .. 0 0	3 2 .. 0 0
China ..	per lb.	0 0 .. 0 0	3 0 .. 0 0
DRUGS.			
ALOE, Hepatic	per ewt.	70 0 .. 180 0	70 0 .. 160 0
Socotrine ..	per lb.	85 0 .. 220 0	65 0 .. 180 0
Cape, good ..	per lb.	53 0 .. 54 0	47 0 .. 48 0
Inferior ..	per lb.	44 0 .. 54 0	40 0 .. 46 0
Barbaloes ..	per lb.	49 0 .. 200 0	50 0 .. 190 0
AMBERGUS, grey	oz.	74 6 .. 83 0	58 0 .. 65 0
BALSAM—			
Canada	per lb.	1 0 .. 1 1	1 2 .. 0 0
Capivi	per lb.	1 5 .. 1 6	1 6 .. 1 8
Peru	per lb.	5 0 .. 0 0	4 9 .. 5 3
Tolu	per lb.	6 0 .. 6 6	0 0 .. 0 0
BARKS—			
Canella alba	per ewt.	21 0 .. 28 6	28 0 .. 27 0
Cascarilla	per lb.	15 0 .. 20 0	16 6 .. 20 0
Peru, crown & grey ..	per lb.	1 6 .. 2 8	1 5 .. 3 0
Callaya, flat ..	per lb.	1 2 .. 6 6	2 9 .. 4 6
quill ..	per lb.	2 0 .. 7 0	2 9 .. 4 11
Carthagena ..	per lb.	1 6 .. 2 7	2 9 .. 3 0
Columbian ..	per lb.	1 9 .. 6 2	1 9 .. 3 9
E. I. ..	per lb.	1 0 .. 4 0	1 9 .. 3 6
good & fine ..	per lb.	4 0 .. 6 0	4 0 .. 5 0
Pitayo ..	per lb.	0 6 .. 1 6	0 10 .. 2 4
Red ..	per lb.	2 3 .. 5 0	1 9 .. 4 6
Buehu Leaves ..	per lb.	0 2½ .. 1 6	0 1 .. 1 1
CAMPION, China ..	per ewt.	90 0 .. 92 6	75 0 .. 0 0
Japan ..	per lb.	95 0 .. 97 6	75 0 .. 0 0
Refin. Eng. ..	per lb.	1 2½ .. 1 3	1 0 .. 0 0
CANTHARIDES			
CHAMOMILE FLOWERS ..	per ewt.	50 0 .. 200 0	40 0 .. 57 0
CASTOREUM	per lb.	9 0 .. 30 0	7 0 .. 25 0
DRAKON'S BLOOD, ip. p. ewt.		95 0 .. 260 0	100 0 .. 260 0
FRUITS AND SEEDS (see also Seeds and Spices).			
Anise, China Star ..	per ewt.	92 0 .. 102 6	85 0 .. 105 0
Spanish, &c. ..	per lb.	30 0 .. 35 0	28 0 .. 40 0
Beans, Tonquin ..	per lb.	1 9 .. 2 7	1 7 .. 2 6
Cardamoms, Malabar good	per lb.	5 0 .. 5 11	3 6 .. 4 0
inferior ..	per lb.	1 6 .. 4 5	0 10 .. 3 4
Aleppy ..	per lb.	3 2 .. 4 4	2 0 .. 3 9
Madras ..	per lb.	2 2 .. 3 10	2 0 .. 3 3
Ceylon ..	per lb.	3 6 .. 5 0	4 0 .. 5 0
Cassia Fistula	per ewt.	10 0 .. 32 0	10 0 .. 32 0
Castor Seeds ..	per lb.	0 0 .. 0 0	5 0 .. 10 6
Oculus Indicus ..	per lb.	8 3 .. 11 0	9 0 .. 11 0
Colocynth, apple ..	per lb.	0 0 .. 0 0	0 6 .. 0 11
Croton Seeds ..	per ewt.	30 0 .. 0 0	35 6 .. 36 6
Cubobs ..	per lb.	27 0 .. 27 6	30 0 .. 0 0
Cummin ..	per lb.	10 0 .. 20 0	16 0 .. 20 0
Dividivi ..	per lb.	12 6 .. 17 6	10 0 .. 15 0
Fenugreek ..	per lb.	8 0 .. 11 0	11 0 .. 22 0
Guinea Grains ..	per lb.	28 6 .. 0 0	21 6 .. 0 0
Juniper Berries ..	per lb.	8 0 .. 10 0	8 0 .. 10 0
Nux Vomica ..	per lb.	12 0 .. 14 6	8 6 .. 12 0
Tamarinds, East India ..	per lb.	15 0 .. 20 0	10 0 .. 15 6
West India ..	per lb.	23 6 .. 27 0	10 0 .. 15 6
Vanilla, large ..	per lb.	23 0 .. 28 0	26 0 .. 40 0
inferior ..	per lb.	12 0 .. 20 0	13 0 .. 19 0
GINGER, Preserved, per lb.			
HONEY, Chili ..	per ewt.	32 0 .. 41 0	40 0 .. 47 6
Jamaica ..	per lb.	40 0 .. 46 0	35 0 .. 47 0
Australian ..	per lb.	0 0 .. 0 0	0 0 .. 0 0
IPERACUANHA			
ISINGLASS, Brazil ..	per lb.	2 10 .. 5 8	4 0 .. 4 6
Tongue sort ..	per lb.	3 6 .. 5 7	3 0 .. 5 6
East India ..	per lb.	2 2 .. 5 6	1 6 .. 4 9
West India ..	per lb.	4 2 .. 4 10	4 4 .. 4 11
Russ, long staple ..	per lb.	8 0 .. 15 0	9 0 .. 12 6
inferior ..	per lb.	0 0 .. 0 0	0 0 .. 0 0
Simovia ..	per lb.	2 0 .. 3 0	2 0 .. 3 3
JALAP, good			
infer. & stems ..	per lb.	0 7 .. 0 7½	0 6 .. 0 6½
LEMON JUICE			
per degree ..	per lb.	0 1½ .. 0 1½	0 1½ .. 0 1½
LIME JUICE			
per gall.	per lb.	0 0 .. 0 0	1 3 .. 1 8
LIQUORICE, Spanish ..			
per ewt.	per lb.	34 0 .. 39 0	0 0 .. 0 0
Liquorice Root ..	per lb.	0 0 .. 0 0	12 0 .. 30 0
MANNA, flaky			
small ..	per lb.	0 0 .. 0 0	5 6 .. 6 0
MUSE, Pod	per oz.	13 6 .. 48 6	40 0 .. 45 0
Grain ..	per lb.	40 0 .. 50 0	51 0 .. 60 0
OILS (see also separate list)			
Almond, expressed ..	per lb.	1 4 .. 0 0	1 4 .. 0 0
Castor, 1st pale ..	per lb.	0 5 .. 0 0	0 4½ .. 0 4
second ..	per lb.	0 4½ .. 0 4½	0 3½ .. 0 4
Cod Liver ..	per gall.	3 11 .. 6 6	5 6 .. 7 6
Croton ..	per oz.	0 2½ .. 0 2½	0 2½ .. 0 0
Essential Oils:			
Almond ..	per lb.	20 0 .. 0 0	20 0 .. 0 0
Anise-seed ..	per lb.	6 3 .. 6 4	7 0 .. 0 0
Bay ..	per ewt.	0 0 .. 0 0	65 0 .. 70 0
Bergamot ..	per lb.	10 0 .. 15 0	10 0 .. 15 0
Cajepit ..	per bottle	3 0 .. 8 6	2 9 .. 3 0
Caraway ..	per lb.	9 0 .. 9 3	9 0 .. 9 3
Cassia ..	per lb.	3 2 .. 0 0	4 0 .. 0 0
Cinnamon ..	per oz.	2 6 .. 5 6	2 6 .. 5 6
Cinnamon-leaf ..	per lb.	0 2½ .. 0 3	0 2½ .. 0 3
Citronello ..	per lb.	0 1½ .. 0 2	0 2 .. 0 0
Clove ..	per lb.	8 3 .. 0 0	9 0 .. 0 0
Juniper ..	per lb.	0 0 .. 0 0	0 0 .. 0 0
Lavender ..	per lb.	1 8 .. 7 0	1 8 .. 7 0
Lemon ..	per lb.	7 0 .. 9 6	7 0 .. 9 6
Lemongrass ..	per oz.	0 2½ .. 0 0	0 2½ .. 0 0

1877.			1876.			1877.			1876.		
Essential Oils, continued:—	s. d.	s. d.	s. d.	s. d.	s. d.	£ s.	£ s.	£ s.	£ s.	£ s.	£ s.
Neroli per oz.	3 0	to 6 6	3 0	to 6 6	3 0	to 6 6	34 10	to 35 0	34 10	to 35 0	34 10
Nutmeg	0 5	.. 0 0	0 7	.. 0 7	0 5	.. 0 0	32 0	.. 34 0	32 0	.. 34 0	32 0
Orange per lb.	6 0	.. 9 0	6 0	.. 9 0	6 0	.. 9 0	28 0	.. 30 0	28 0	.. 30 0	28 0
Otto of Roses per oz.	16 0	.. 22 0	13 0	.. 25 0	13 0	.. 25 0	26 0	.. 0 0	26 0	.. 0 0	26 0
Patchouli	1 9	.. 3 0	2 0	.. 3 6	2 0	.. 3 6	46 0	.. 0 0	46 0	.. 0 0	46 0
Peppermint:							45 10	.. 0 0	45 10	.. 0 0	45 10
American per lb.	13 0	.. 14 3	12 6	.. 14 9	12 6	.. 14 9	0 0	.. 0 0	0 0	.. 0 0	0 0
English	34 0	.. 35 0	34 0	.. 35 0	34 0	.. 35 0	0 0	.. 0 0	0 0	.. 0 0	0 0
Rosemary	2 0	.. 2 6	2 0	.. 2 6	2 0	.. 2 6	0 0	.. 0 0	0 0	.. 0 0	0 0
Sassafras	2 3	.. 2 6	2 3	.. 2 0	2 3	.. 2 0	0 0	.. 0 0	0 0	.. 0 0	0 0
Spearmint	12 0	.. 15 0	14 0	.. 16 0	14 0	.. 16 0	0 0	.. 0 0	0 0	.. 0 0	0 0
Thymo	0 0	.. 0 0	0 0	.. 0 0	0 0	.. 0 0	0 0	.. 0 0	0 0	.. 0 0	0 0
Mace, expressed per oz.	0 6	.. 0 10	0 6	.. 0 10	0 6	.. 0 10	41 10	.. 42 0	41 10	.. 42 0	41 10
Opium, Turkey per lb.	16 6	.. 18 6	19 0	.. 21 6	19 0	.. 21 6	37 10	.. 38 0	37 10	.. 38 0	37 10
inferior	10 0	.. 12 0	9 0	.. 18 0	9 0	.. 18 0	32 0	.. 37 0	32 0	.. 37 0	32 0
QUASSIA (bitterwood) per ton	100 0	.. 130 0	100 0	.. 140 0	100 0	.. 140 0					
RHUBARB, China, good and fine per lb.	3 0	.. 3 6	3 0	.. 4 5	3 0	.. 4 5					
Mid. to ord.	0 10	.. 2 3	0 8	.. 2 10	0 8	.. 2 10					
Dutch Trimmed.	0 0	.. 0 0	5 0	.. 8 6	5 0	.. 8 6					
ROOTS—Calumba per cwt.	28 0	.. 34 0	18 0	.. 26 0	18 0	.. 26 0					
China	30 0	.. 32 0	19 0	.. 24 0	19 0	.. 24 0					
Chiretta per lb.	0 2	.. 0 3	0 3	.. 0 4	0 3	.. 0 4					
Galangal per cwt.	22 6	.. 24 0	19 0	.. 22 0	19 0	.. 22 0					
Gentian	22 0	.. 24 0	23 0	.. 24 0	23 0	.. 24 0					
Hellebore	0 0	.. 0 0	0 0	.. 0 0	0 0	.. 0 0					
Orris	26 0	.. 75 0	26 0	.. 75 0	26 0	.. 75 0					
Pellitory	70 0	.. 76 0	70 0	.. 76 0	70 0	.. 76 0					
Pink per lb.	0 0	.. 0 0	0 0	.. 0 0	0 0	.. 0 0					
Rhatany	0 3	.. 1 0	0 4	.. 1 0	0 4	.. 1 0					
Seneca	3 6	.. 4 0	3 6	.. 0 0	3 6	.. 0 0					
Snake	0 6	.. 0 6	0 6	.. 0 7	0 6	.. 0 7					
SAFFRON, Spanish ..	20 0	.. 34 0	22 0	.. 36 0	22 0	.. 36 0					
SALEP	0 0	.. 0 0	0 0	.. 0 0	0 0	.. 0 0					
SARSAPARILLA, Lima per lb.	0 5	.. 0 7	0 5	.. 0 7	0 5	.. 0 7					
Gnayaquill	1 10	.. 2 2	1 9	.. 1 11	1 9	.. 1 11					
Honduras	0 11	.. 1 4	1 3	.. 1 7	1 3	.. 1 7					
Jamaica	1 3	.. 2 9	2 8	.. 3 0	2 8	.. 3 0					
SASSAFRAS per cwt.	9 0	.. 11 0	0 0	.. 0 0	0 0	.. 0 0					
SCAMMONY, Virgin per lb.	24 0	.. 30 0	24 0	.. 30 0	24 0	.. 30 0					
second & ordinary ..	6 0	.. 22 0	6 0	.. 22 0	6 0	.. 22 0					
SENNA, Bombay	0 1	.. 1 6	0 1	.. 0 4	0 1	.. 0 4					
Tinnivelly	0 1	.. 1 5	0 2	.. 2 0	0 2	.. 2 0					
Alexandria	0 5	.. 2 0	0 5	.. 2 8	0 5	.. 2 8					
SPERMACEIN, refined ..	1 4	.. 0 0	1 4	.. 0 0	1 4	.. 0 0					
American	1 2	.. 0 0	1 0	.. 1 2	1 0	.. 1 2					
SQUILLS	0 1	.. 0 3	0 2	.. 0 3	0 2	.. 0 3					
GUMS.	£ s.	£ s.	£ s.	£ s.	£ s.	£ s.	£ s.	£ s.	£ s.	£ s.	£ s.
AMMONIAC drop .. per cwt.	2 2	.. 2 6	1 15	.. 2 15	1 15	.. 2 15					
lump	0 17	.. 1 14	1 0	.. 1 10	1 0	.. 1 10					
ANISE, fine washed ..	11 0	.. 12 15	11 0	.. 12 10	11 0	.. 12 10					
bold scraped	9 15	.. 10 15	9 10	.. 10 15	9 10	.. 10 15					
sorts	6 15	.. 9 10	6 10	.. 9 5	6 10	.. 9 5					
dark	4 0	.. 6 10	4 0	.. 6 0	4 0	.. 6 0					
ARABIC, E.I., fine											
pale picked	3 0	.. 3 17	3 0	.. 4 0	3 0	.. 4 0					
sorts, md. to fin.	2 5	.. 2 14	2 9	.. 2 18	2 9	.. 2 18					
garblings	1 6	.. 2 0	1 1	.. 2 4	1 1	.. 2 4					
TURKEY, pick. gd. to fin.	6 0	.. 9 10	6 10	.. 10 10	6 10	.. 10 10					
second & inf.	3 0	.. 5 15	3 0	.. 6 10	3 0	.. 6 10					
in sorts	2 10	.. 3 16	2 15	.. 3 5	2 15	.. 3 5					
Gedda	1 15	.. 3 0	1 6	.. 1 10	1 6	.. 1 10					
BARBARY, white	0 0	.. 0 0	2 4	.. 2 16	2 4	.. 2 16					
brown	2 0	.. 2 3	1 15	.. 1 17	1 15	.. 1 17					
AUSTRALIAN	1 18	.. 2 15	1 15	.. 2 7	1 15	.. 2 7					
ASSAFETIDA, cm. to fin.	0 16	.. 4 0	0 15	.. 1 10	0 15	.. 1 10					
BENJAMIN, 1st & 2nd ..	30 0	.. 25 0	10 0	.. 36 0	10 0	.. 36 0					
Sumatra 1st & 2nd ..	7 10	.. 12 0	6 10	.. 15 0	6 10	.. 15 0					
3rd	3 0	.. 5 0	3 10	.. 5 0	3 10	.. 5 0					
COPAL, Angola red ..	6 0	.. 6 15	6 0	.. 6 15	6 0	.. 6 15					
Benguella	4 0	.. 5 0	4 0	.. 5 0	4 0	.. 5 0					
Sierra Leone, per lb.	0 6	.. 0 9	0 7	.. 0 11	0 7	.. 0 11					
Manilla per cwt.	21 0	.. 27 0	15 0	.. 27 0	15 0	.. 27 0					
DAMMAR, palo	75 0	.. 77 6	60 0	.. 63 0	60 0	.. 63 0					
Singapore	70 0	.. 75 0	60 0	.. 63 0	60 0	.. 63 0					
EUPHORBIA	9 0	.. 15 0	12 0	.. 20 0	12 0	.. 20 0					
GALBANUM per lb.	0 0	.. 1 3	0 5	.. 1 3	0 5	.. 1 3					
GAMBOGE, pkd. pipe per cwt.	210 0	.. 250 0	200 0	.. 260 0	200 0	.. 260 0					
GUAIACUM per lb.	1 0	.. 2 6	1 0	.. 3 2	1 0	.. 3 2					
KNO per cwt.	40 0	.. 50 0	40 0	.. 50 0	40 0	.. 50 0					
KOWRIE, rough	24 0	.. 38 0	32 0	.. 58 0	32 0	.. 58 0					
scraped sorts	44 0	.. 55 0	60 0	.. 70 0	60 0	.. 70 0					
MASTIC, picked per lb.	4 0	.. 5 0	4 0	.. 5 0	4 0	.. 5 0					
MYRRH, gd. & fine per cwt.	156 0	.. 240 0	170 0	.. 0 0	170 0	.. 0 0					
ord. to fair	80 0	.. 130 0	100 0	.. 150 0	100 0	.. 150 0					
OLIBANUM, p. drop ..	47 0	.. 52 0	50 0	.. 54 0	50 0	.. 54 0					
amber & ylw.	34 0	.. 46 0	36 0	.. 50 0	36 0	.. 50 0					
garblings	10 0	.. 25 0	15 0	.. 26 0	15 0	.. 26 0					
SENSEAL	60 0	.. 0 0	60 0	.. 65 0	60 0	.. 65 0					
SANDARAC	80 0	.. 100 0	75 0	.. 85 0	75 0	.. 85 0					
SHELLAC, Orange ..	83 0	.. 96 0	105 0	.. 160 0	105 0	.. 160 0					
Liver	75 0	.. 82 0	92 6	.. 110 0	92 6	.. 110 0					
THUS	20 0	.. 21 6	20 0	.. 22 0	20 0	.. 22 0					
TRAGACANTH, leaf ..	240 0	.. 400 0	240 0	.. 400 0	240 0	.. 400 0					
in sorts	25 0	.. 175 0	25 0	.. 175 0	25 0	.. 175 0					
OILS.	£ s.	£ s.	£ s.	£ s.	£ s.	£ s.	£ s.	£ s.	£ s.	£ s.	£ s.
SEAL, pale per tun	34 0	.. 34 10	33 10	.. 34 0	33 10	.. 34 0					
yellow to tinged ..	31 10	.. 33 0	31 0	.. 33 0	31 0	.. 33 0					
brown	29 0	.. 30 10	29 10	.. 0 0	29 10	.. 0 0					
SPERM per lb.	78 0	.. 79 0	86 0	.. 0 0	86 0	.. 0 0					
BODY	0 0	.. 0 0	0 0	.. 0 0	0 0	.. 0 0					
COD	33 0	.. 33 10	41 10	.. 43 0	41 10	.. 43 0					
Oils, continued:—											
WHALE, South Sea, pale, per tun	35 0	to 0 0	35 0	to 0 0	35 0	to 0 0					
yellow	33 0	.. 34 0	33 0	.. 34 0	33 0	.. 34 0					
brown	30 0	.. 31 0	30 0	.. 31 0	30 0	.. 31 0					
East India, Fish ..	25 10	.. 26 0	25 10	.. 26 0	25 10	.. 26 0					
OLIVE, Galipoli per ton	51 0	.. 0 0	51 0	.. 0 0	51 0	.. 0 0					
Gioja	0 0	.. 0 0	0 0	.. 0 0	0 0	.. 0 0					
Levant	49 0	.. 49 10	49 0	.. 49 10	49 0	.. 49 10					
Mogador	48 0	.. 48 10	48 0	.. 48 10	48 0	.. 48 10					
Spanish	49 10	.. 51 0	49 10	.. 51 0	49 10	.. 51 0					
Sielly	49 0	.. 50 0	49 0	.. 50 0	49 0	.. 50 0					
COCOANUT, Cochlin ..	48 10	.. 0 0	48 10	.. 0 0	48 10	.. 0 0					
Ceylon	38 15	.. 39 0	38 15	.. 39 0	38 15	.. 39 0					
Mauritius	0 0	.. 0 0	0 0	.. 0 0	0 0	.. 0 0					
GROUND NUT AND GINGELLY:											
Bombay	0 0	.. 0 0	0 0	.. 0 0	0 0	.. 0 0					
Madras	0 0	.. 0 0	0 0	.. 0 0	0 0	.. 0 0					
PALM, fine	40 0	.. 0 0	40 0	.. 0 0	40 0	.. 0 0					
LINSEED	30 2/6	.. 30 5	30 2/6	.. 30 5	30 2/6	.. 30 5					
RAPESEED, English, pale ..	40 0	.. 0 0	40 0	.. 0 0	40 0	.. 0 0					
brown	37 15	.. 38 0	37 15	.. 38 0	37 15	.. 38 0					
Foreign, pale	0 0	.. 0 0	0 0	.. 0 0	0 0	.. 0 0					
brown	0 0	.. 0 0	0 0	.. 0 0	0 0	.. 0 0					
COTTONSEED	35 0	.. 0 0	35 0	.. 0 0	35 0	.. 0 0					



WAS THE PHARMACY ACT NECESSARY?

AMONG the correspondence addressed to us during the past month was a letter which to some extent replies to the query at the head of this paragraph. We suppress names of persons and places, but with that exception we copy the letter verbatim:—

DEAR SIRS,—I Sold Laudum and all Sorts of Chemistry and Druggs for about 22 years before it was required to be registered I Neglected at the time to get registered to Sell Laudum &c. would there be any likelihood of the getting registered to Sell them now there is A very Large Population here where I Live and it is A great Disconvenence as there is not any Person Sells them now I have had the Patent Medicine Licenco out for A number of years and I Sell all Other Kinds of Chemistry would you wright haek and sey if there would be any chance of me geting registered now as I could get Good referances from Chemsts in Newcastle-on-Tyne and Doctors in the nebourhood where I live.

This was accompanied by an affidavit signed by a butcher in the place, who deposed as follows:—"This is to Certify that own to the Large Population of ——— and the Necessity of a Chemist and Druggist I can recommend Mr. ——— Grocer and Draper a fit and Qualified man to deal in the above known him for upwards of thirty years as one of sobriety and good Character."

Cambrian.—(1). A pharmaceutical chemist of Ireland has no legal right to practise as a chemist and druggist in England; nor can an English pharmaceutical chemist as such practise pharmacy in Ireland. (2). A little castor oil with other ingredients, in pills, would certainly make "compound castor oil pills," and we do not see what legal defect such a label would present. But it is difficult to prophesy about a magisterial decision.

J. P.—The analysis published by us in February, 1869, of Allen's World's Hair Restorer (by the late Mr. Henry Matthews, F.C.S.) was as follows:—"The bottle examined contained 8½ fluid ounces of mixture, composed of a colourless fluid and yellowish grey powder, the latter consisting of sulphur with a trace of carbonate of lead, the solution containing acetate of lead and glycerine. An analysis of the contents of the 8½-ounce bottle indicated 75·6 grains of sulphur, and an amount of lead corresponding to 87 grains of acetate."

Eblana.—You will find some useful notes on colourless tincture of iodine in THE CHEMIST AND DRUGGIST for March (p. 109), April (p. 132), and May (p. 194) of last year. We especially recommend to your notice the note in the April number. The German pharmaceutical formula for colourless tincture of iodine is:—

	Parts
Iodi	10
Natri subsulphurosi	10
Aq. dest.	10

Digest with gentle heat and occasional agitation, and to the solution add:—

	Parts
Liquor ammoniæ ('830)	16
Spirit ('834)	75

Keep cool for three days and filter.

Mr. Forbes (Reigate) kindly points out a misprint in our "Notes and Queries" for August, where in giving the formula for Pulv. Glycyrrhizæ Co. (German Pharm.) the quantity of licorice powder is printed 3vi., instead of 3vi., as it should appear.

The Pharmaceutical Council very properly includes English Composition among the subjects of preliminary examination. We should much like to see the "short essay" written by the author of the circular quoted below. It is the handbill of a gentleman who styles himself "Dispensing Chemist (by examination) Associate of the Pharmaceutical Society," and whose establishment may be found within ten miles of the Bank of England:—"Having opened premises as above, would call attention to the facilities offered at this Establishment for the dispensing of medicine, formulae, and all connected, &c. Being prepared with the finest matters obtainable, by a varied and extended experience continental and home—the which is exigent so emphatically, that in the most scientific interpretation allowed to be past question. Relative to the preceding—having communication in town every day, are thereby enabled to secure any requirement without delay, or where urgency is demanded at once; that constituting our business or pertinent therent."

Last month we gave some American popular names of pharmaceutical products, but it is quite unnecessary to go across the sea to get curious specimens of this sort. A good variety of absurd demands are constantly being sent to us, but the subject is one that is liable to become monotonous. Here are a few from selections received lately:—

A Somersetshire chemist sends us, among others, the following originals:—"Each 2 dram of sweets sprits of aighter lodacom elixer of rattal a quarter pound of honny." A very carefully written document contains the legend "Ape a Dil Dook," an article described by another scribe as "hopor-didog." This seems a favourite rock to split upon, as we find a third applicant asking for "6d. worth of oils called the Aberdare duck." "Sofer of siak" is the demand of the next customer. A pretty lady's writing asks for "Sophia of Ives," which we suppose is her way of asking for *Sulphurivum*. A person who spells quite correctly has evidently never grasped the idea of the foreign origin of eichona, as he applies for "2 oz. improved bark." Among the other orders we find "foolers earth," "timeloa of I—dine for a sewing in the Kaee," "syptety powder," "Cupid powers," "milk suffer," &c.

A Scottish chemist sends us some specimens, among which occur "Moala," "Sutrie Mienasey," and "Snetrect Mienizle" (citrate of magnesia) "merkolement," "dulltheoinment," &c.

W. M. will be much obliged if any one will inform him how "Essence of Composition" is made.

Salt-peter says that in *Land and Water* oil of peter, *alias* rock oil, was recently recommended as a bait for fishing instead of salmon roe, and a customer of his wants to try the article. He asks what it is. We judge from the *alias* that peter is in this case a contraction of petroleum, but we cannot tell whether fish would be attracted by the odour of that product. (2) Bensley's "Druggist's Receipt Book" is the best book of its class at about its own price. There is a recent edition published. Coley's "Encyclopædia" is a much larger work, but that is published at 28s.

W. H. H. asks "how and in what proportion are the oil of vitriol and starch mixed to produce a syrup fit for use?" The question is not clear to us. Perhaps our correspondent will explain more exactly what he requires.

Australian.—(1). You cannot register a mere name in this country as a trade mark. You can only register as trade marks some device or design. A name, however, may be protected as a matter of equity. That is to say if you adopt a title for your preparation, and having made a trade with it, someone else copies that name, if the Court shall consider the name sufficiently fanciful or novel in combination, and the imitation sufficiently flagrant, it may grant an injunction in your favour. (2). The preparation you ask about is a secret one, but the following is said to somewhat resemble it:—

Fine potash soap	3 ozs.
Cream of tartar	1 draehm
Alcohol	18 ozs.
Distilled perfumed water	6 ozs.

Digest and filter.

E. W. R.—We are not authorities on the subject of potting bloaters, but from what we can learn the salt Dutch herring is generally used. It is well cooked first, bones and skin are removed (how, on a large scale, we cannot tell), then what remains of the fish is ground up with some butter and spices to flavour it. The colouring is effected by bole, as in the case of anchovy paste, but it is necessary now to state on the label that artificial colouring has been employed. The grinding is the great difficulty, and we do not know what process is adopted to obtain a smooth paste. Having nearly filled the jar with the prepared paste, some clarified melted butter is poured on the top to a depth of about one-eighth of an inch. The jars are then closely covered. Possibly some reader can inform our correspondent of a work giving practical recipes for this kind of product.

Tan.—The United States Dispensary may be obtained of Messrs. Lippincott & Co., 16 Southampton Street, Strand (30s.). We do not know much of the practical using of Copland's "Dictionary." Hooper's "Medical Dictionary" is largely used, and highly prized by many chemists.

Sigma.—Your query suggests a good subject for an article, which we will keep in mind. At present we are not able to give the information fully.

With Quinine at 12s. 6d. per oz.—Mr. Goodall (Derby) sends us a cutting from a local paper recording a meeting of the Shardlow Board of Guardians, at which we read: "Mr. Evans brought before the guardians a list of drugs, &c., required for use in the new dispensary at the workhouse. It was resolved that a supply of drugs, medicines, &c., be provided at a cost not exceeding 6l. per annum." The guardians evidently anticipate a healthy time.

Student (Newcastle-on-Tyne).—For vegetable *Materia Medica* Hanbury's "Pharmacographia" is *facile princeps*, but is now out of print. For general *Materia Medica*, including chemicals as well as animals and vegetables, Royle's "Manual of Materia Medica" (Churchill, 15s.), is a good and useful book. We cannot say which is the best elementary work on electricity and magnetism, but we consider Jenkins' "Electricity and Magnetism" (Longmans, 3s. 6d.) a very good one. Tome's "Manual of Dental Surgery" (14s.), J. Smith's "Handbook of Dental Anatomy and Surgery" (4s. 6d.), and Sewillo's "Students' Guide to Dental Anatomy and Surgery" (5s. 6d.) are all good books, published by Churchill.